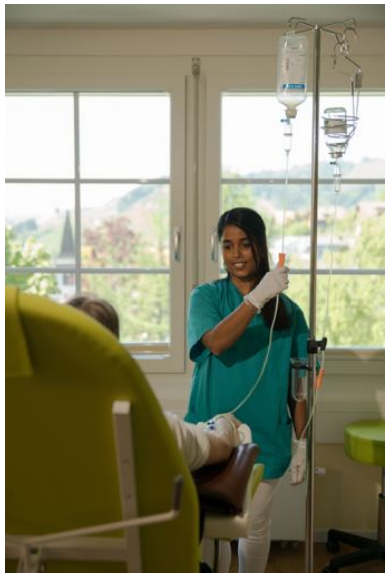
ALPSTEINCLINIC

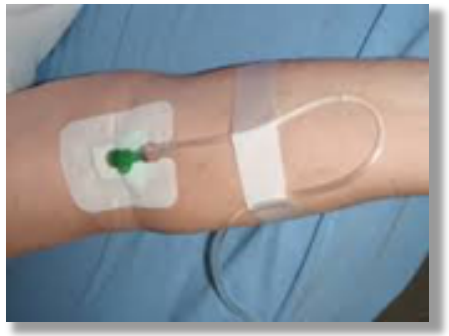
WELCOME !



Innovative approaches with infusions in biological Medicine

Dr. Ralf Oettmeier and Team, Gais / AR, Switzerland

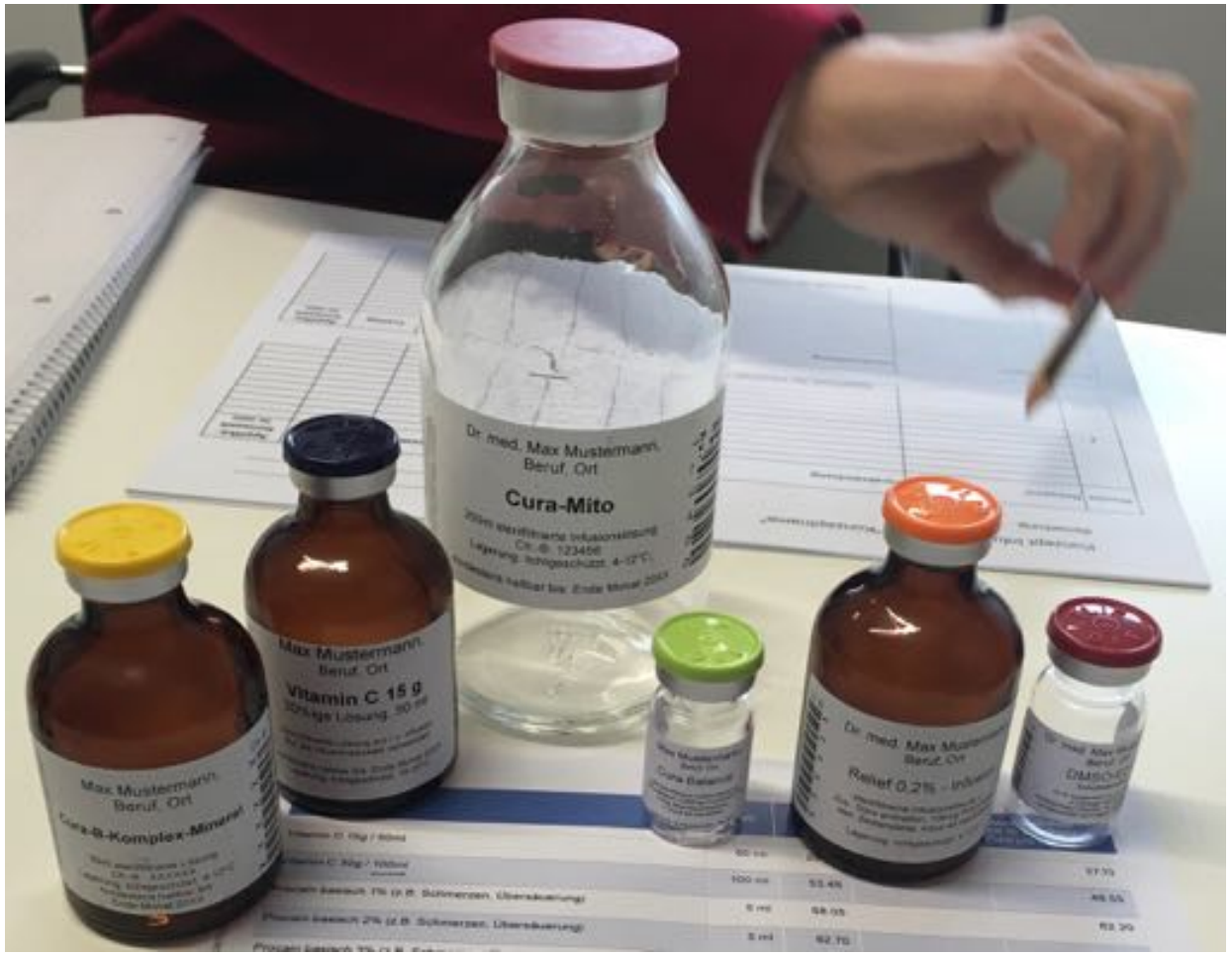
The Infusion



- *Application directly into the blood-circulatory system*
- Bypassing the stomach-intestinal tract
- Much faster onset of effect
- ***A kind of more intensive care for the patient***

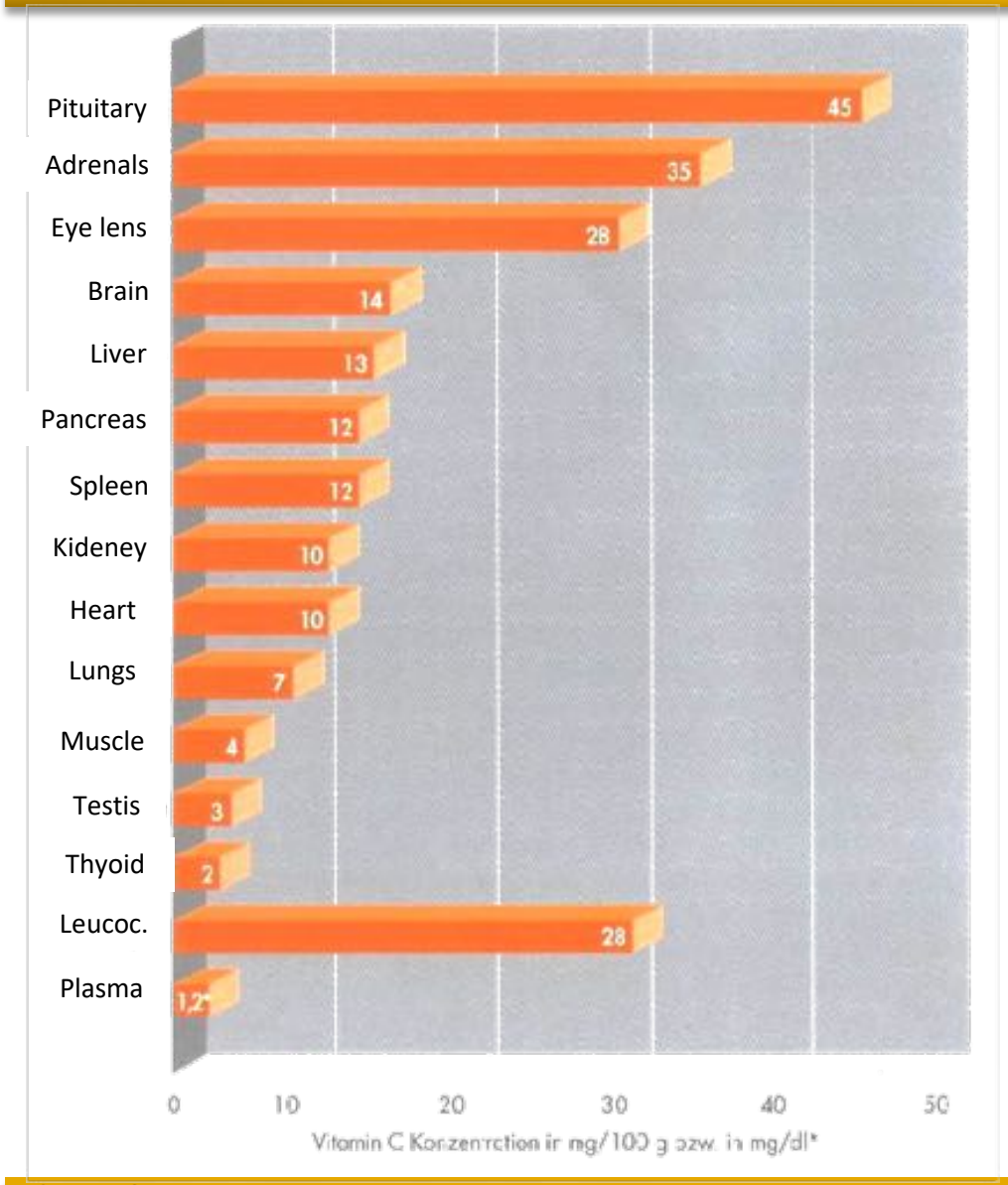
Parenteral anti-inflammatory and immune modulative Infusions

- Vitamin C
- Selenium
- Procaine / ProcCluster®
- homeopathic remedies
- isopathic remedies
- homotoxicological remedies
- Curcuma, Amygdalin



ALPSTEINCLINIC

Vitamin C



Vitamin C concentration in organs

Acta biologica SD 3/04

Phase contrast microscopy, x200

ALPSTEINCLINIC

Vitamin C: features

Let increase the concentration of

- Interferon
- PG E2 and PG I2
- complement Clq C3
- IgM, IgA, IgG
- HDL-Cholesterol
- Cytochrome P450

Let decrease the concentration of

- histamine
- thromboxane
- heavy
- metals uric acid
- Total cholesterol
- LDL cholesterol
- Lipoprotein A

Promotes the

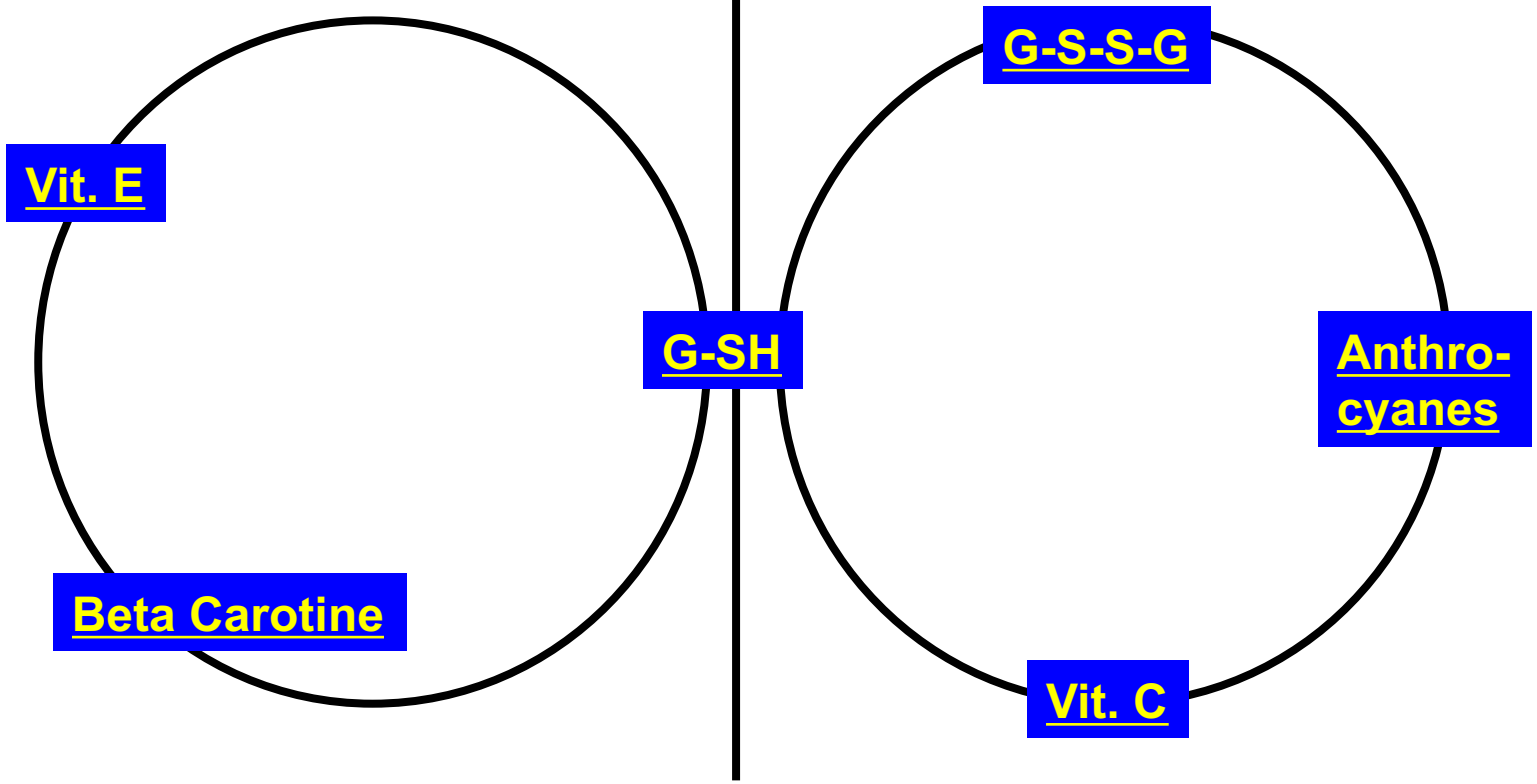
- Absorption of iron
- Heavy metal detoxification
- collagen synthesis
- Scavanger functions
- Mobility and chemotaxis of leukocytes
- phagocytosis

The "magic 8" of antioxidants

The interplay of antioxidants ...

Lipophilic compartments
and Biological membranes

Hydrophilic compartments Intra-cellular,
vasal, mitochondrial, Liquor, interstitial

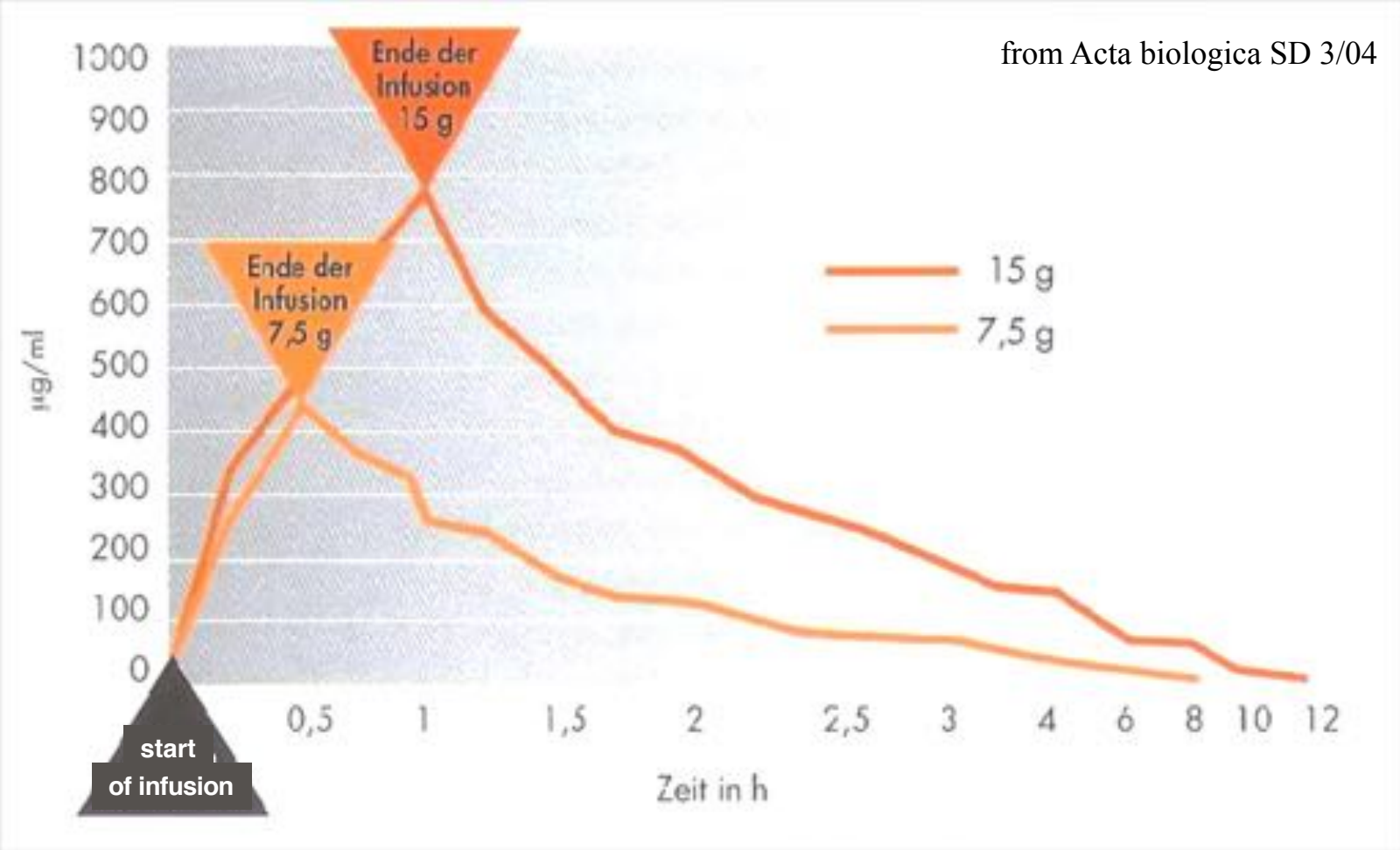


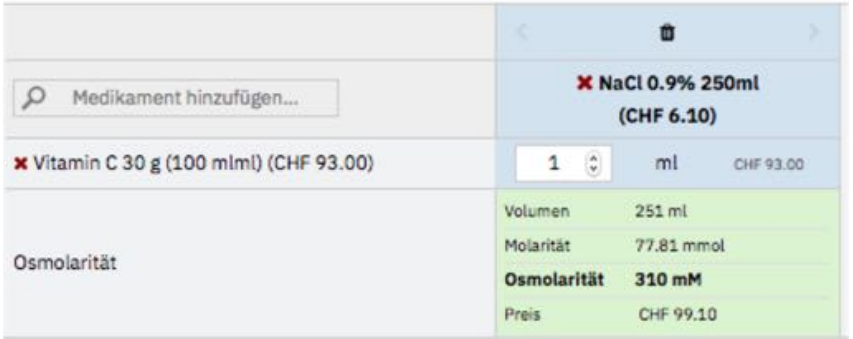
(after Ohlenschläger)

ALPSTEINCLINIC

Vitamin C Infusion

Resorption rate in infusion application





The Alpstein high-dosed Vitamin C infusion by using 30 g Vials

Indication:

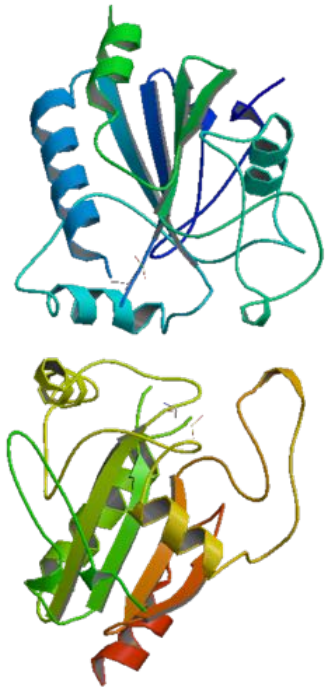
acute and chronic infections, Oncology, mitochondriopathies, autoimmune diseases and other chronic inflammatory diseases

Application:

Once or twice a week; a total of 5-10 infusions, infusion within 1 hour

Selenium

Important trace element and component of Se-depending enzymes



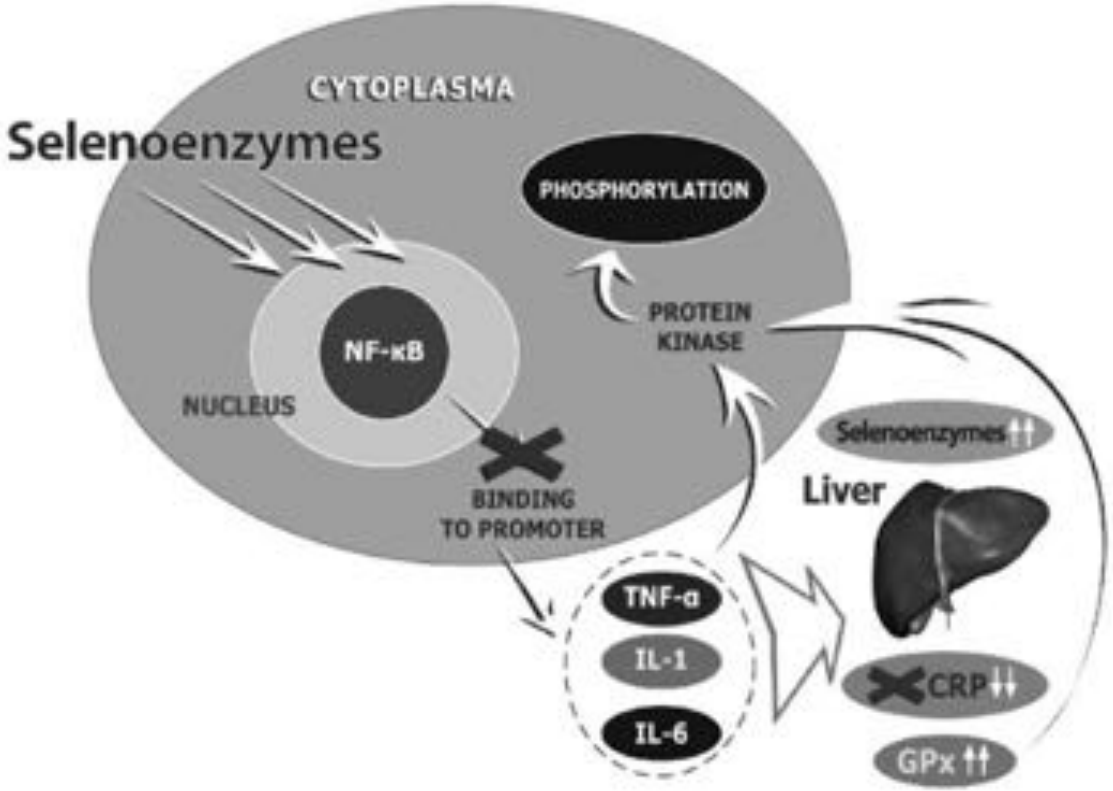
Bovine GSH-Px1

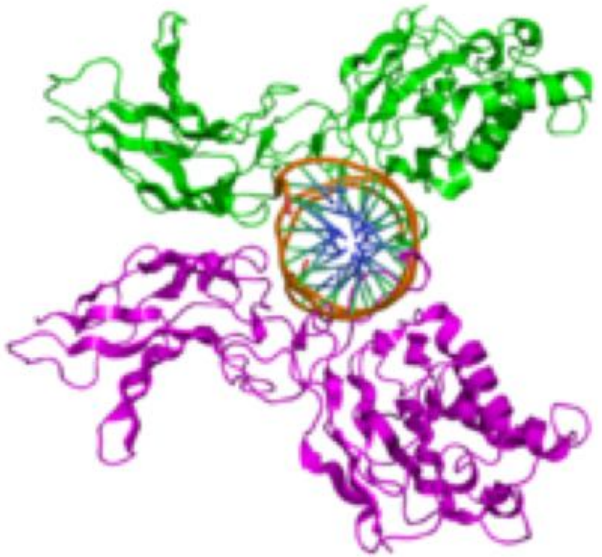
	Function or health effect
Glutathione peroxidases (GPxs)	Family of antioxidant enzymes: remove hydrogen peroxide, lipid hydroperoxides, and (GPx4) phospholipid and cholesterol hydroperoxides[4]
GPx1 (cytosolic)	Reduces retroviral virulence by preventing viral mutations;[5] deficiency causes cardiomyopathy[5,6]
GPx2 (gastrointestinal)	Antiapoptotic function in colon crypts; helps to maintain intestinal mucosal integrity[7]
GPx3 (plasma)	Antioxidant in extracellular fluids; kidney is source of GPx3 in plasma;[4,8] thyroid protection from hydrogen peroxide in thyrocytes and follicular lumen[9]
GPx4 (phospholipid)	Membrane-associated; present at high concentrations in the testis, where it is essential for sperm motility and viability[10-12]

Rayman, M.P.: Selenium and human health., Lancet 379: 1256 – 1268 (2012), wikipedia commons

Selenium

- **Important scavanger of free radicals / anti-inflammatory**
- **Inhibition of NF-κB (important inflammation factor)**

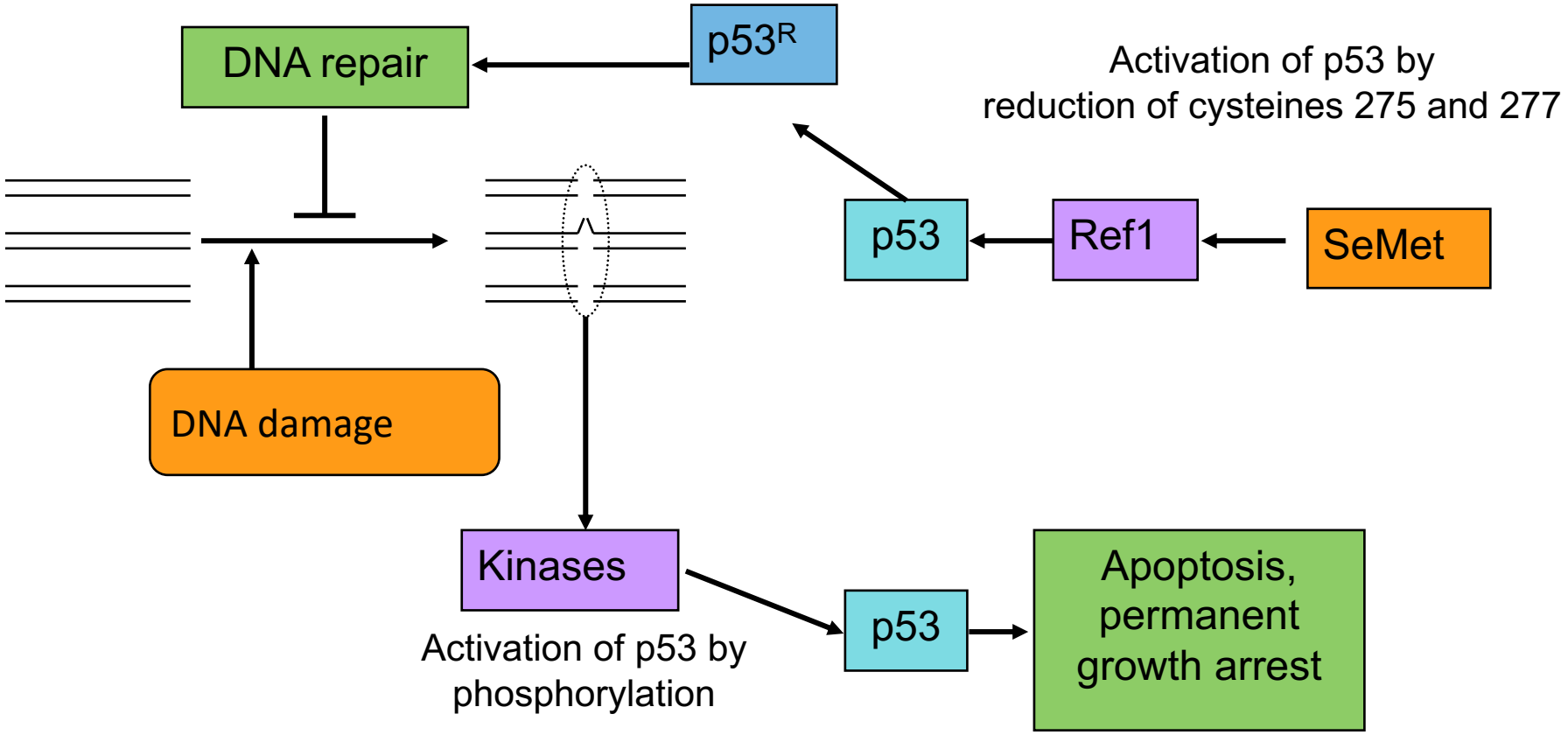




Duntas, L.H.: Selenium and Inflammation: Underllying Anti-inflammatory Mechanisms. Hormone Metab. Res. 41: 443 – 447 (2009)
Wikipedia commons

Selenium

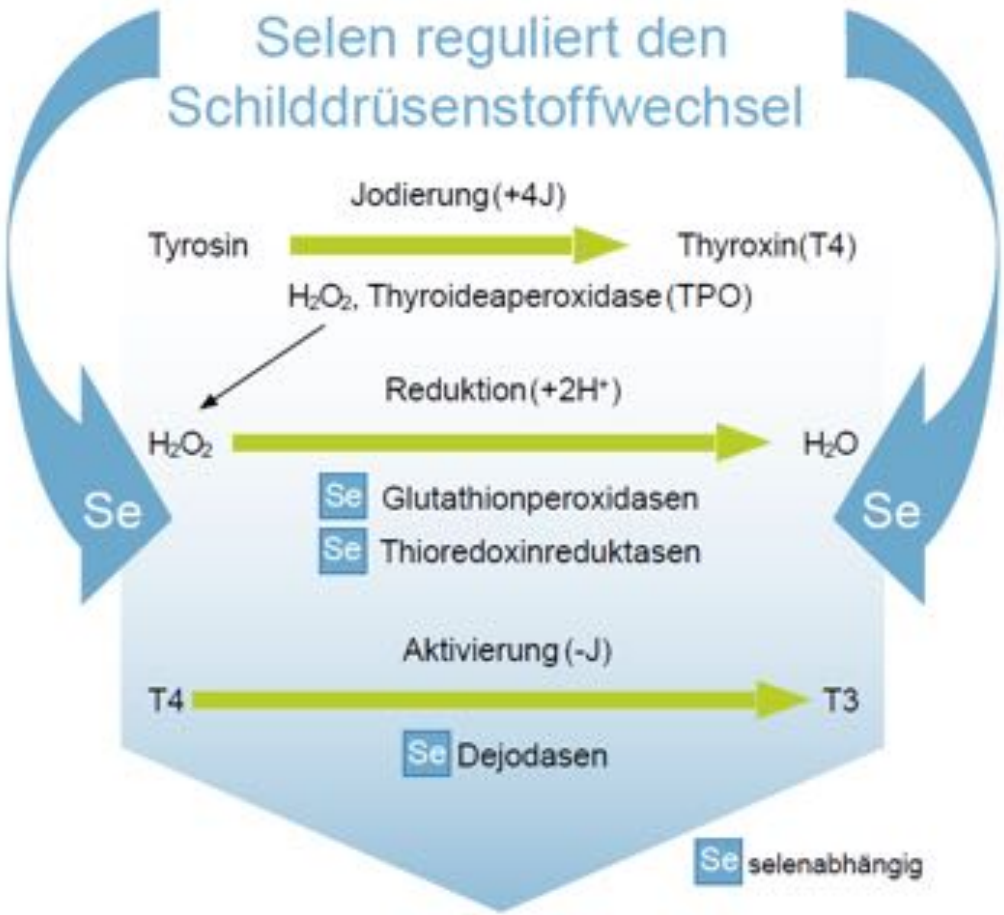
- **DNA repair**

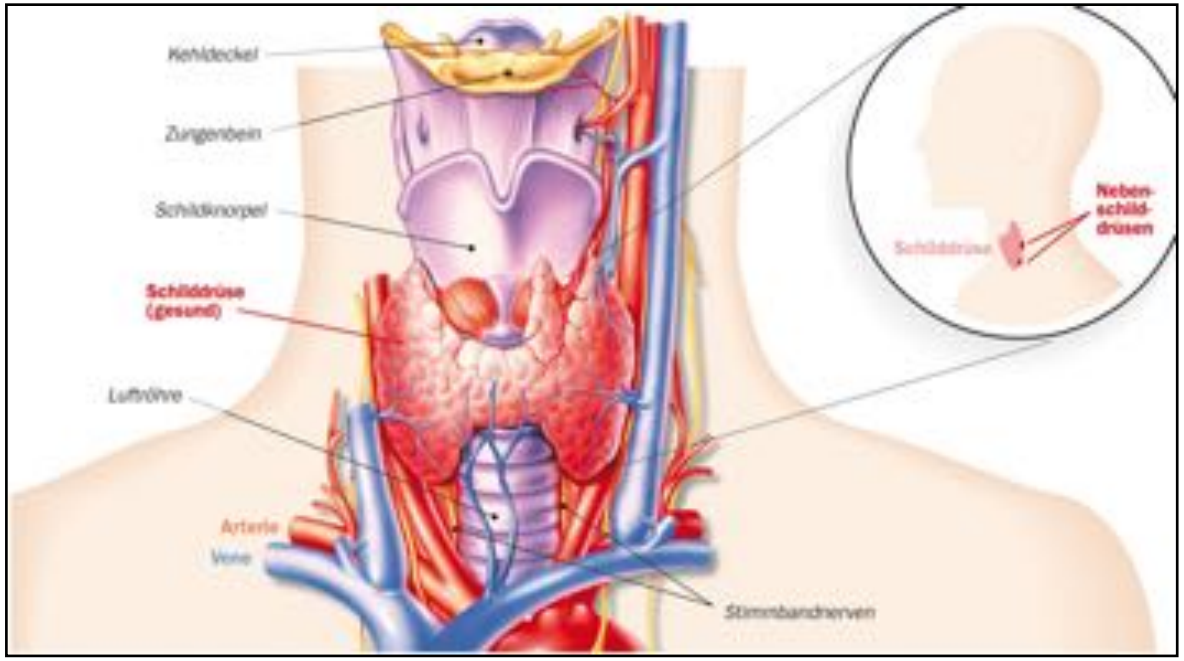


Gudkov, A. V., Nature Med. 8, 1196 (2002)

Selenium

- **Regulation of thyroid gland metabolism**





ALPSTEINCLINIC

Selenium

References	Dosage [µg/d]	Reduction TPO-Ab [%] after 3 rather 6 month	Significance	Patient Verum/ Control	Further results
Gärtner et al. 2002	200	3 m.: –36,4 %	p = 0,013	36 / 34	Reduced inflammation (better US-pattern) Stronger physical und mental capacity, ability to concentrate, disposition; partly less joint discomfort and allergies
Gärtner & Gasnier 2003	200	Cross-over 6 m.: –43,4 %	p = 0,004	27 / 20	
Duntas et al. 2003	200	3 m.: –46 % 6 m.: –55 %	p < 0,0001 p < 0,005	34 / 31	Better disposition and less fatigue
Moncayo et al. 2005	200			167	Significant reduction of TSH-level in- between 8 bzw. 14 weeks + normalization of the US-pattern = normalization of the tyroid function
Turker et al. 2006	200	3 m.: -26,2 %	p < 0,001	48 / 40	Significant reduction of Tg-Ab; reduction of vitiligo of 50%; reduction of discoid-lupus erythemathosis*
	100	3 m.: no Reduction	p < 0,01	28	
	200	further 3 m.: –30,3 %	p < 0,01	20	
Mazokopakis et al. 2007	200	6 M.: –21 %	p < 0,0001	40 / 40	Reduction of Ab was more effective in non-smokers (ox. stress)
Karanikas et al. 2007	200	no reduction, because of no active diseases		36	Distinct better quality of life

Clinical studies concerning selenium and auto-immune diseases

Alpstein Selenium infusion

- **Short description:**
  - Infusion with high-dosed Selenium (1-2 mg)
- **Indication**:
  - As part of the targeted treatment of immunodeficiency and tumor disease
  - Proven selenium deficiency
  - Weakness of antioxidant enzymes in genotyping laboratory analytics
  - Accompanying radiotherapy
- **Effect**:
  - Anti-oxidative, gland support, to activate mitochondrial enzymes, epigenetic effect
- **Application**:
  - Monthly, all together 2 - 3 Infusions
- **Combination**
  - Not together with vitamin C on the same day

Medikament hinzufügen...	✖ Ringer-Lactat 500ml (CHF 7.90)		
✖ Selenase pro Inj. 500 mcg (10ml) (CHF 125.30)	1	ml	CHF 125.30
Osmolarität	Volumen	501 ml	
	Molarität	139.81 mmol	
	Osmolarität	**279.06 mM**	
	Preis	CHF 133.20	

Impressions from the Alpstein Clinic Gais, Switzerland

Ozone and infusion

PROCAINE

The „Polycrest“ of Anesthetics

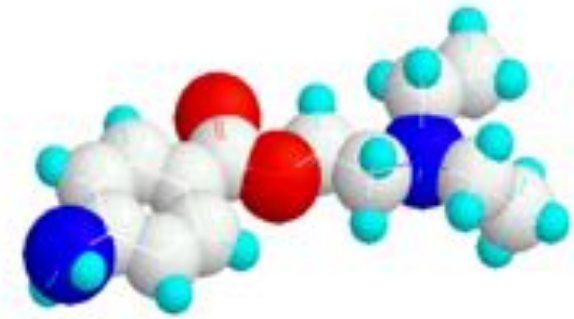
or

the royal
Remedy ...

Prof. Aslan, 1954

Overview of the most important pharmacological and clinical features

- Poor of side effects
- Low half life period
- Low toxicity
- Local anesthesia
- Endo anesthesia
- sympathico-lytic
- vascular Dilatation
- Broncho-spasmolytic
- Increase of coronary perfusion
- negative inotrop and anti-arrhythmic
- Anti-inflammatory
- Anti-rheumatic
- Anti-cancerous
- Vitalization



Acceptance

Neural Therapy
Pain Therapy
RR - Regulation
Lung Function

Heart function
autoimmune
Diseases, pcP,
Tumor Therapy
Well-Aging

Procaine – special Features

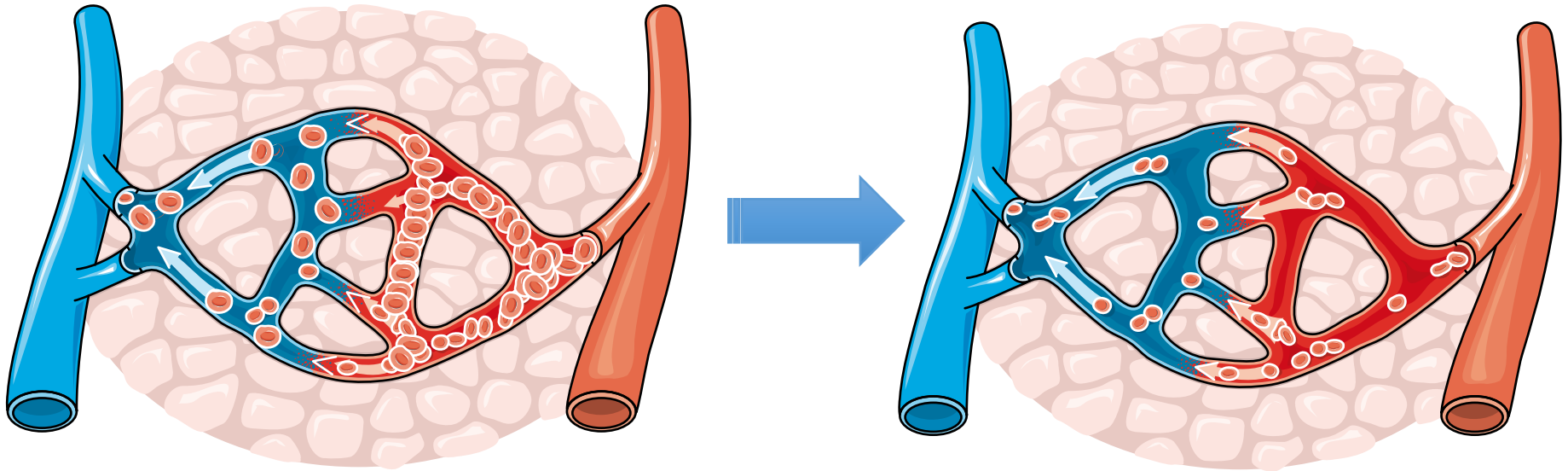
- **very SAFE and high therapeutic Margin**
  - Most non-toxic of all local anaesthetics (Fischer et al. 2011)
  - Relevant side effects very seldom (erythema, flush, collaps, vegetative symptoms) in 5-10 of 1000 cases
  - <u>Not comparable with NSAR !</u>
    - Mortal gastro-intestinal bleeding in the USA: 16.500 per year !!

    (Wolfe MM, Lichtenstein DR, Singh AG. *Gastrointestinal Toxicity of Nonsteroidal Antiinflammatory Drugs,* The New England Journal of Medicine 1999;340,24:1888–99)

Procaine – special Features

- **Increase of Microangioperfusion**

(WILLATTS 1985, WILLS 1989, ADEAGBO 1990, HUANG 1997, FULTON 1994, GLUSA 1999)



Procaine – special Features

- **Inhibition of Inflammation (also neurogenic inflammation)**

  (DONALDSON 1994, LEVINE 1985, KRAUSE 2000, FISCHER 2015)

- **Antioxidative and fat-reducing Effect**

  (RUSU 1996, DOLGANIUC 1998, KASCH 2000)

Procaine – special Features

- **Antirheumatic and Joint protective Effect**
  - Dose-dependend inhibition of Interleucin-6-production and T-Cell – Proliferation (Krause et al. 2000)
  - Inhibition of Interleucin-6 correlates well with the clinical observation of significant CRP reduction (Kasch et al. 2001)
  - Rheumatoid-arthritis-Model Guinea Pig
    - Reduction of joint swelling significantely
    - Histology: significant reduction of arthritis scores
    - Joint protective effect in pcP better in comparison with Dexamethason (Bräuer et al 2000)

Procaine – special Features

- **to Release and to Reset the autonomic nervous system ANS (neural therapy effect)**
  - injected into the area of blockage
  - the body moving from a blocked state to a state of homeostasis
  - It improves flow between the sympathetic and parasympathetic branches of the ANS

(NAZLIKUL H. et al 2010, 2014, YALÇIN BAHAT P, NAZLIKUL H. 2017)

Procaine – special Features

• sympatholytic Action

- BECKE M: The effect of Procain on the cell membrane. German. Ärztezeitschrift f. Naturheilverfahren 37, 2: 90 – 97 (1996).
- WANDER R: Actions of Procaine in the ground substance. German. personal information (1999).
- HILLE B: Ionic channels of excitable membranes, 2nd ed, Sunderland (1992)
- JURIUS AR, JARRUSH-SAADEH D, NASSAR C: Modulation of some human mononuclear activities by Procaine. M.E.J. Anest. 9: 417-428 (1988).
- MROSE HE, RITCHI JM: Local anestetics: Do Benzocaine and Procaine act on the same single site?, J. Gen.Physiol. 70: 223-225 (1978).
- Jalili S, Saeedi M: Study of Procaine and tetracaine in the lipid bilayer using molecular dynamics simulation. Eur Biophys J. 24: 76-88 (2016).

Procaine – special Features

- **Reduction of Side Effects from**
  - **Chemotherapy**

    (HIDVEGI 1982, CHLEBOVSKI 1982, ESPOSITO 1990, VIALE 1998, PASTRONE 1999)
  - **Radiation**

    (YAU 1980, LE FEINENDEGEN 1984)

Procaine – special Features

- **Vitalisation, „ASLAN“ anti-aging effect**
  - due to influencing mitochondral function (?)
  - wide therapeutic effect of procaine on nervous, cardiovascular, locomotor, cutaneous and gastrointestinal diseases in elderly people
  - Has treated in the Romanian Clinic (Bukarest) e.g. Bob Hope, Cary Grant, Marilyn Monroe, Winston Churchill and others

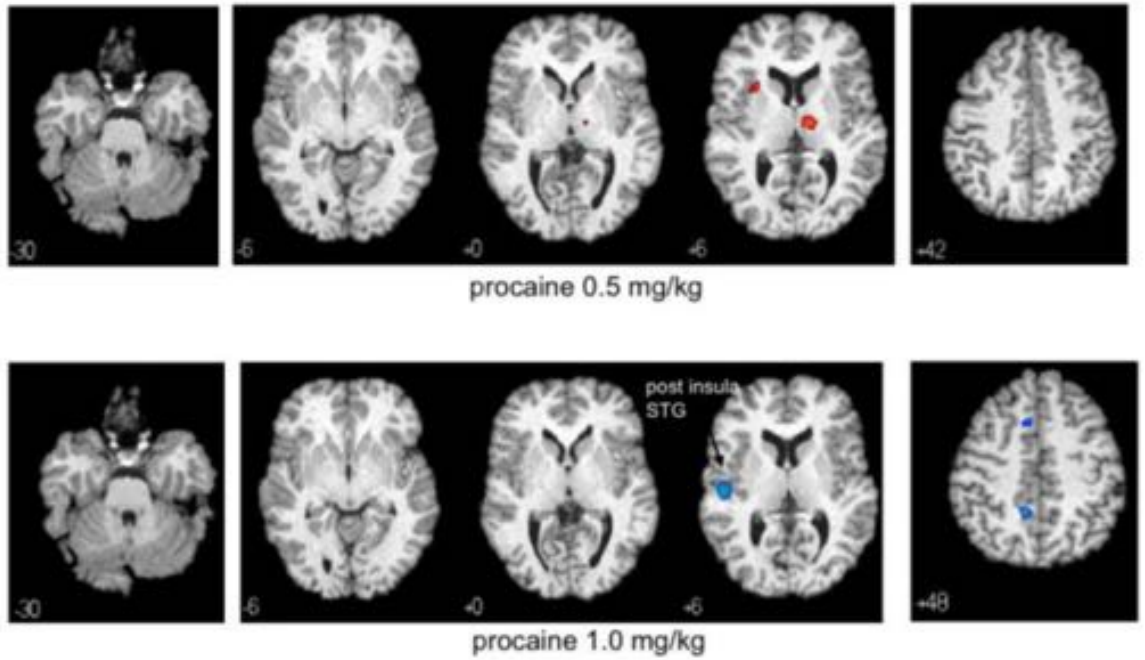
(ASLAN A: Procaine therapy in old age and other disorders (Novocaine factor H3). Geront. Clin.;148-176 (1960).

Procaine – special Features

- **brightened Mood, Anxiety loss, emotional Relaxing** ***Balancing of neurotransmitter metabolism in limbic system*** HAHN-GODEFFROY, Schweiz. Z. Ganzheitsmed. 23, 291-296 (2011)
- **Stabilization and Conservation of Cell Membranes** (KALMÁR 1975, EPTING 1977, BLEESE 1978, BLEESE 1979, ISSELHARD 1980,

Procaine – special Features

- **central modulation of Procaine acting on the stress axis of limbic system with anti-depressive and psycho-analeptic action** (ADINOFF, B et al. 1999, 2001, 2002, WILCOX, K M et al. 2005)



Increases (red) and decreases (blue) in regional cerebral blood flow in response to procaine infusion in healthy subjects (SPECT MRI analysis from ADINOFF, B et al 2002)

Procaine – special Features

• Cancer Inhibition and Prevention

Procaine is a DNA-demethylating Agent with Growth-inhibitory Effects in Human Cancer Cells

• VILLAR-GAREA, FRAGA, ESPADA, ESTELLER
[*Cancer Research* 63, 4984-4989, August 15, 2003]

• VILLAR-GAREA A 2005

• TADA 2007 and SABIT 2016

• Li Xi et al 2017


Procaine Is a DNA-demethylating Agent with Growth-inhibitory Effects in Human Cancer Cells[1]

ABSTRACT

Cancer Research

NEW

Procaine – special Features

Oncol Res. 2017 May 11. doi: 10.3727/096504017X14944585873622. [Epub ahead of print]

Procaine Inhibits Proliferation and Migration of Colon Cancer Cells Through Inactivation of the ERK/MAPK/FAK Pathways By Regulation of RhoA.

Li C[1], Gao S[1], Li X[2], Li C[3], Ma L[4].

Author information

Abstract

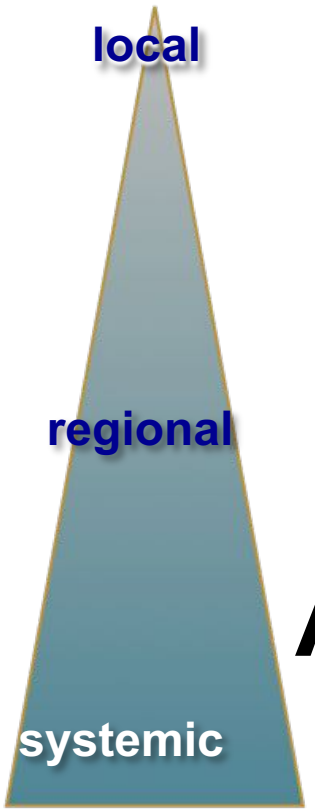
Colon cancer is one of the lethal varieties of cancer. Chemotherapy remains to be one of the principal treatment approaches for colon cancer. Anticancer activity of procaine (PCA), which is a local anesthetic drug, has been explored in different studies. In our study, we aimed to explore the anticancer effect of PCA on colon cancer and its underlying mechanism. The results showed that PCA significantly inhibited cell viability, increased the percentage of apoptotic cells and decreased the expression level of RhoA in HCT116 cells in a dose dependent manner (P<0.05 or P<0.01). Moreover, PCA increased the proportion of HCT116 cells in G1 phase as well as down-regulated Cyclin D1 and Cyclin E expressions (P<0.05). In addition, we also found that PCA remarkably inhibited cell migration in HCT116 cells (P<0.01). However, all these effects of PCA on cell proliferation, apoptosis and migration were significantly reversed by PCA + pc-RhoA (P<0.05 or P<0.01). Besides, PCA significantly decreased the levels of p-ERK, p-p38MAPK and p-FAK, but PCA + pc-RhoA rescued these effects. Furthermore, ERK inhibitor (PD098059), p38MAPK inhibitor (SB203580) and FAK inhibitor (Y15) reversed these results. These data indicated that PCA inhibited cell proliferation, migration but promoted apoptosis as well as inactivated ERK/MAPK/FAK pathways by regulation of RhoA in HCT116 cells.

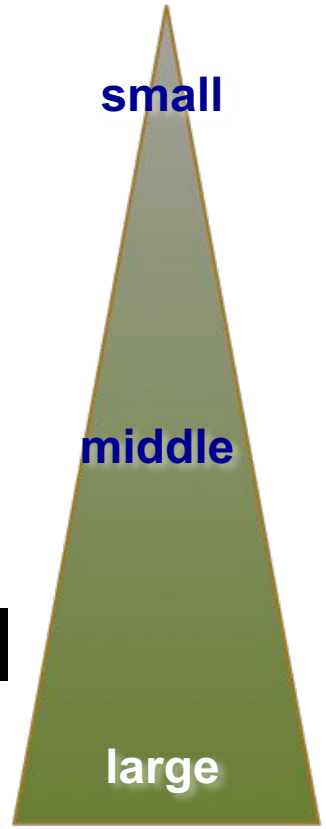
PMID: 28492141 DOI: 10.3727/096504017X14944585873622

Procaine – fields of application (parenteral)

Effect

Amount





local anesthesia

wheal- and trigger point application

Nerve root blockades

Ganglion blockades, intramuscular

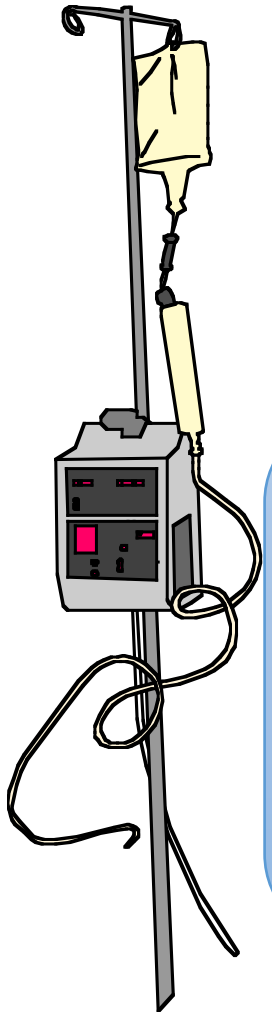
Anesthesia oversegmental

Irritation field and focus treatment

Endoanesthesia after ZIPF

Prof. ASLAN Therapy

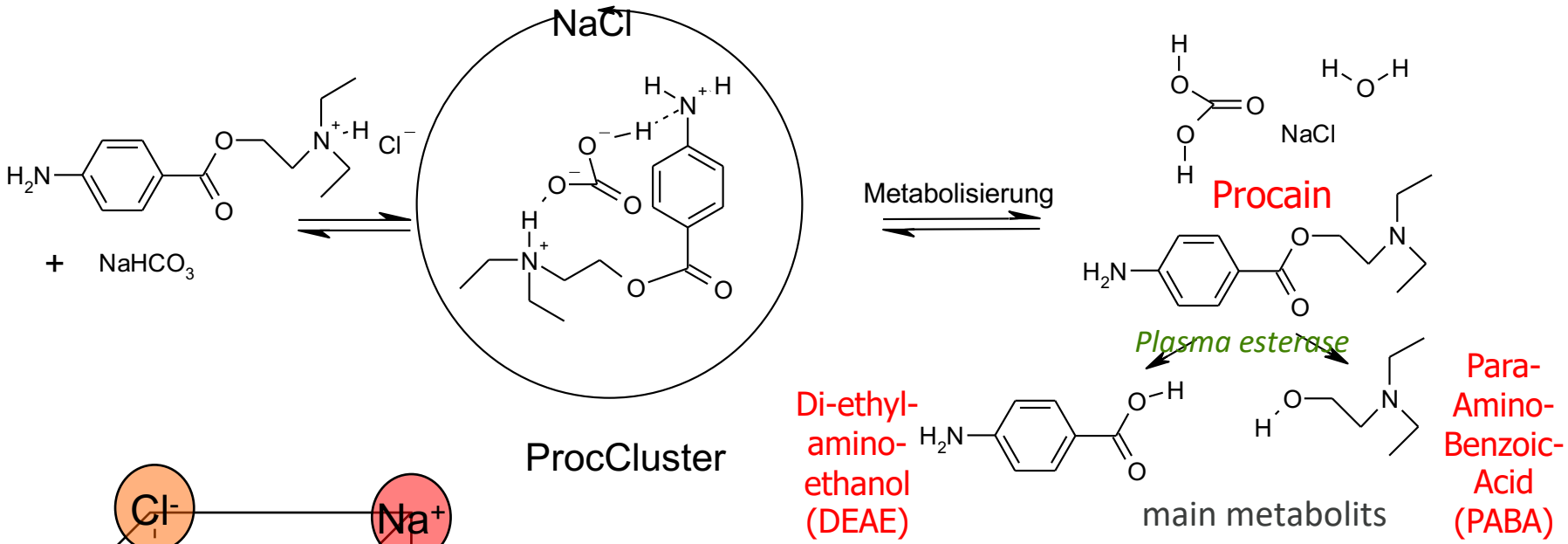
Procaine-(Base)-Infusion

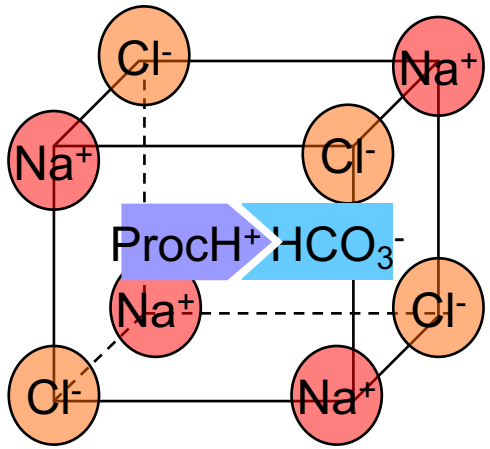


The effective Synthesis ...

PROCAINE	Sodium-bicarbonate
- analgetic	- alkalizing
- anti- inflammative	- mineralized
- anti-oxidative	- Retardation of Procaine - degradation
- vasodilative	

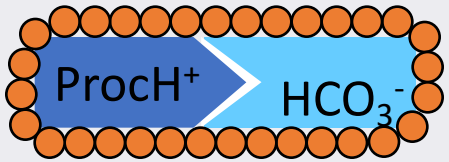
ProcCluster® : the Prodrug of Procaine





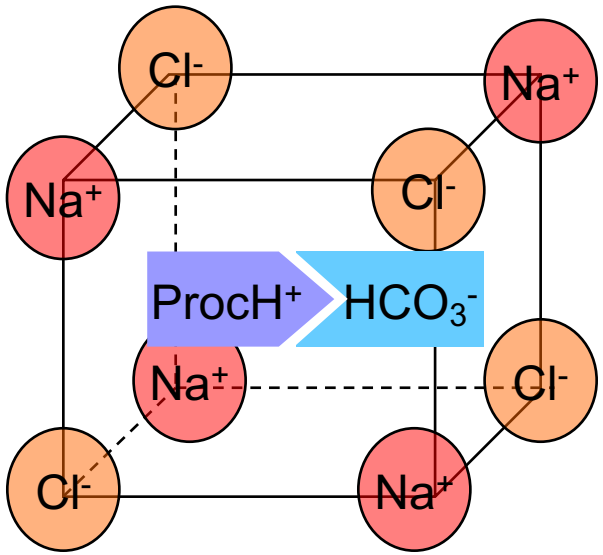
ProcCluster means: ***„Proc“ is standing for Procaine and „Cluster“ is demonstrating the chemical procedure to embed the agent***

ProcCluster®

Procainhydrochlorid = Procainiumchlorid	ProcCluster = Procainiumhydrogencarbonat * NaCl
$ProcHCl\ (aq) \rightleftharpoons ProcH^+\ (aq) + Cl^-(aq)$	$ProcHHCO_3{}^*(aq) \rightleftharpoons ProcH^+\ (aq) + HCO_3^-(aq)$
Procaine HCO_3^- HCl	pK_s: 8,05 pK_s: 7,5 pK_s: -7
	
Dissociation	Close Ion Pair

Rating of Acid (Base)- Constant	
Most intensive Acid (Base)	$pK_S\ (pK_B) \leq -1,74$
Intensive Acid (Base)	$-1,74 \leq pK_S\ (pK_B) \leq 4,5$
Weak Acid (Base)	$4,5 \leq pK_S\ (pK_B) \leq 9,5$
Very weak Acid (Base)	$9,5 \leq pK_S\ (pK_B) \leq 15,74$
Extreme weak Acid (Base)	$pK_S\ (pK_B) \geq 15,74$

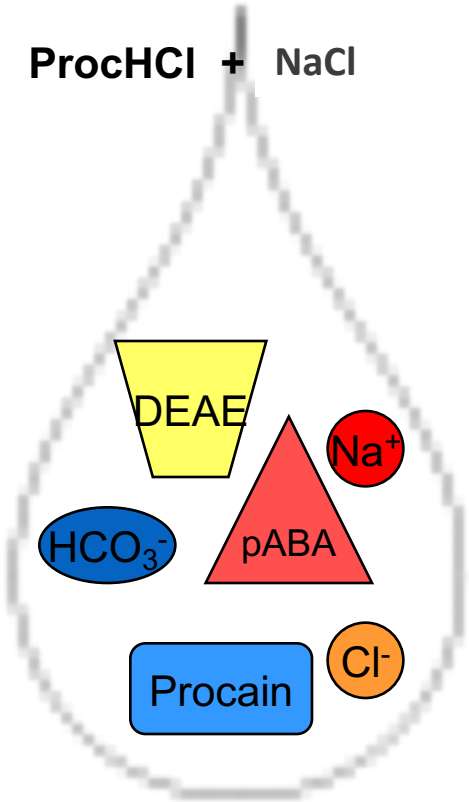
the most important Characteristics

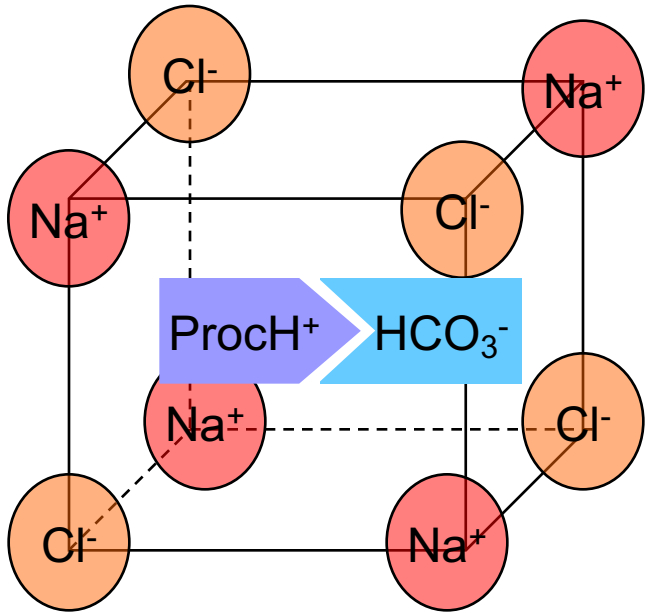


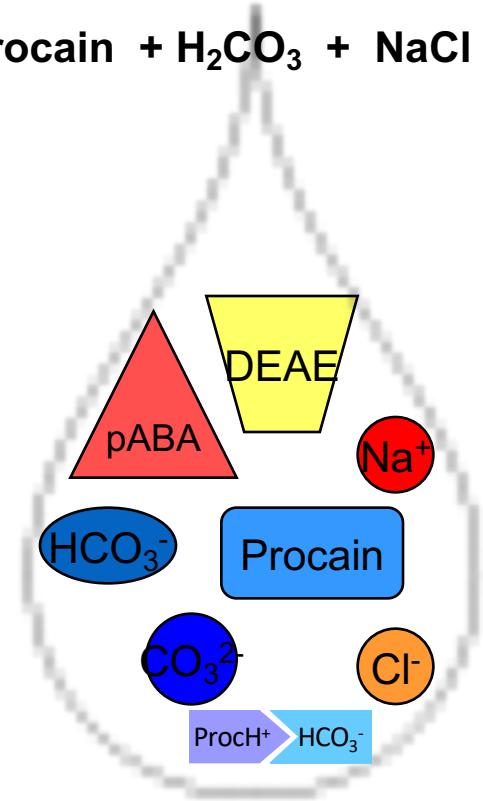
- ***Amphiphilic*** *(hydro- and lipophil)*
- *alkalic component is bound on procain* ***(release retarded)***
- ***retarded degradation*** *from plasma esterase*
- ***all application forms possible***

Agent Release

ProcHCl + NaCl ⟷ **($ProcHHCO_3$ + NaCl)** ⟷ **Procain + H_2CO_3 + NaCl**







Used in Neural Therapy

Procaine-HCl

Capsule, Cream, Injection, Infusion

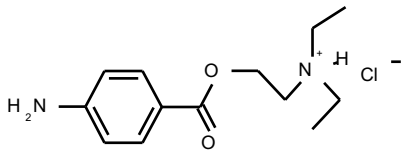
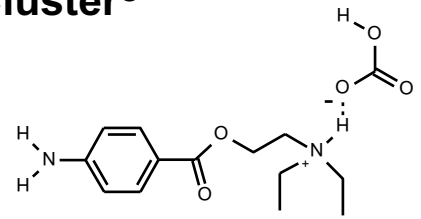
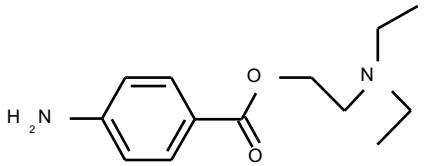
100 % ProcCluster® stabilized, retarded

High-dosed Procaine-Base Infusion

contains ca. 20% ProcCluster®

ALPSTEINCLINIC

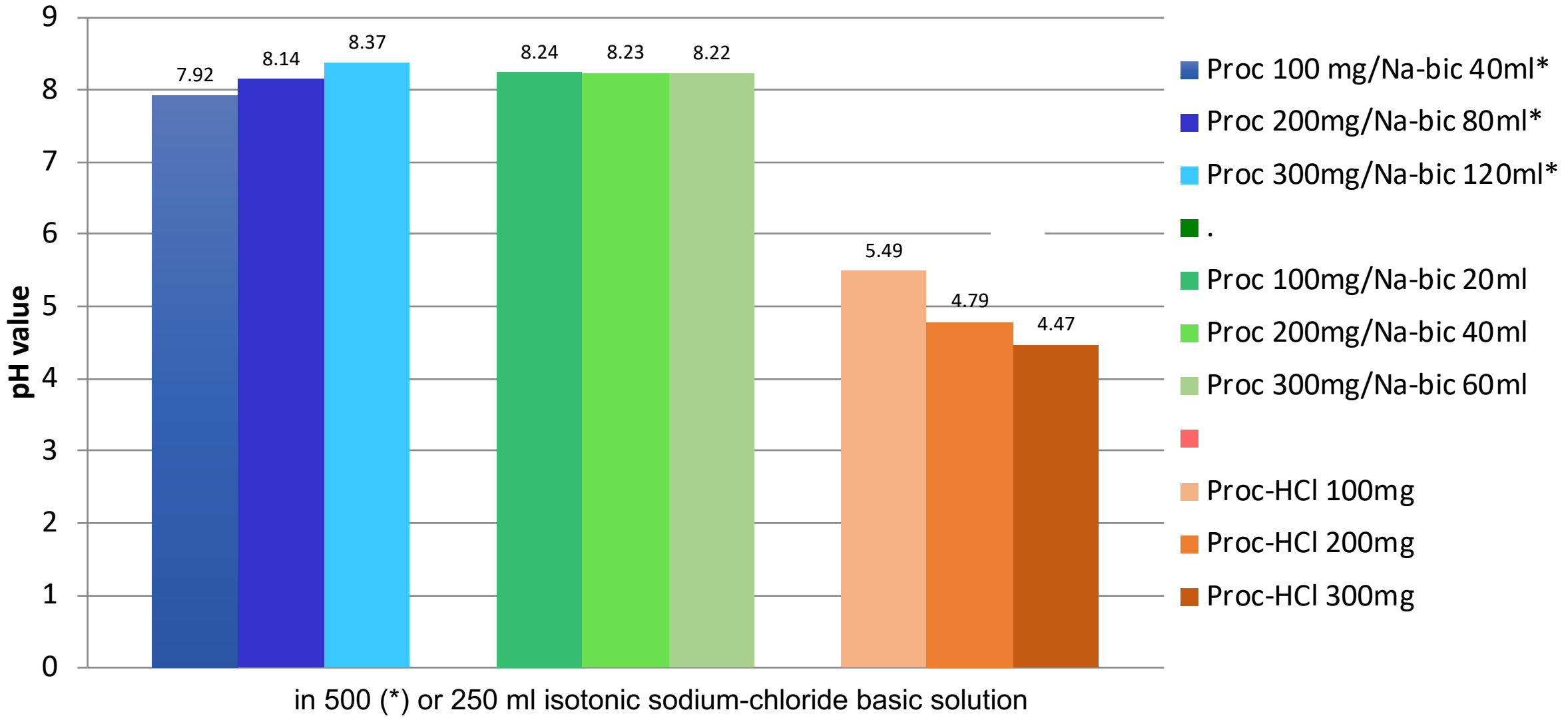
Comparison from ProcCluster®, Procaine and Procainhydrochlorid (resp. pure substance and sediment)

Procainhydrochlorid 	**ProcCluster®** 	**Procaine** 
• good water-soluble	• good water-soluble	• good soluble in organic solvents
• acid (pH-value ca. 4)	• about physiological pH-value (ca. 7,6)	• alkaline
• ionic	• outwards neutral (inwards salt)	• uncharged
• low resorption	• able to permeate and penetrate	• membrane consistently
• hydrophil	• ambiphil (hydrophil and lipo-phil)	• hydrophob
• parenterale application only	• application (parenteral, oral, dermal, inhalative)	• is not considered as pure substance but as ProcHCl administered

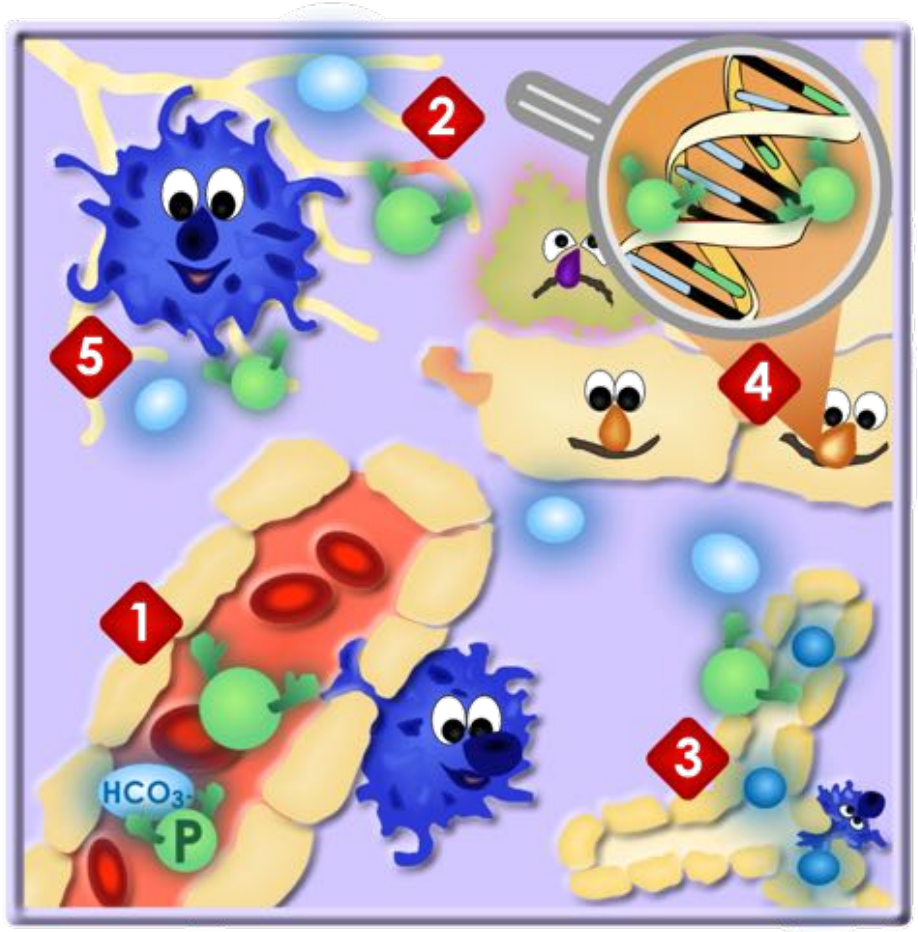
jenCluster GmbH

ALPSTEINCLINIC

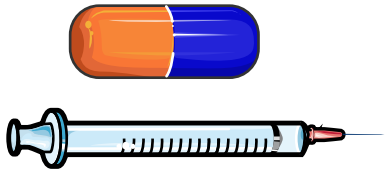
pH-comparison between different Procaine-Base-Dosages, Procaine-HCl pure and volume of basic solution (System Buffy, komstar.ch)



Procaine Therapy: the Idea of Action



1. ***Blood flow enhancement*** (dilatation of small vessels, capillaries and lymphatic v.)
2. ***Reduction of pain*** (stabilization of nerve membranes)
3. ***Alkalization*** (releasing of body-own base sodium-hydrogen-bicarbonate)
4. ***Inhibition and prevention of cancer*** (effect towards demythelization of chromosomes into nucleus)
5. ***Anti-inflammatory effect*** (protection of immune cells, inhibition of inflammarory cytokines, additionaly combination effect from points „1“ to „4“)



Main indications

- **All kinds of acute or chronic pain situations**
- **Clinical and paraclinical hints of latent tissue acidosis** (pathol. pH-reduce pericellular)
- **Inflammatory, rheumatic and auto-immune diseases** (acut and chronic)
- **Prae- and postoperative** (better wound healing, Neuroprotection)
- Stress relief, infection, common cold, vitalisation, rejuvenation

actual recommended procedure

- **Procaine compartibility test**
  - Testing with1% Procain-HCl or ProcCluster®-cream

Optimal

- **Additionaly Acid-Base-Diagnostics**
  - aBGA, Buffy, Sander, BET-A Vincent

- **Procaine-Base-short infusion**
  - 1-2x per week, before other infusions
  - Start with 100 ml Procain/20-40 Na-bicarbonate
  - increase of dosage till improvement of complaints

- **ProcCluster®-Depot i.m. or orally**
  - i.m. 1-4x per month (2 % solution of ProcCluster 5 ml)
  - Orally with Capsule (50 – 100 mg), dosage 1x1 or every other day

arterial Blood Gas Analysis (aBGA)

Case of a metabolic alkalosis

Reference values

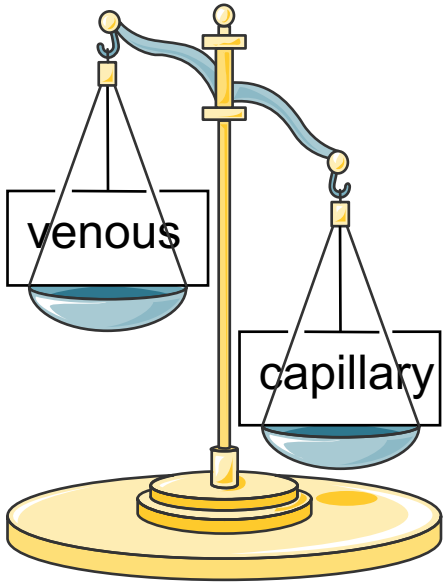
pH	7,350 - 7,450	
BE(ecf)	-2,0 - 3,0	mmol/L
K+	3,5 - 4,5	mmol/L
cTCO2	22,0 - 29,0	mmol/L
BE(b)	-2,0 - 3,0	mmol/L
Glu	4,1 - 5,5	mmol/L
Lac	0,56 - 1,39	mmol/L

Ergebnisse: Gase+

pH	7,463		high
pCO2	5,19	kPa	
pO2	11,13	kPa	
cHCO3-	27,9	mmol/L	
BE(ecf)	4,1	mmol/L	high
cSO2	96,8	%	

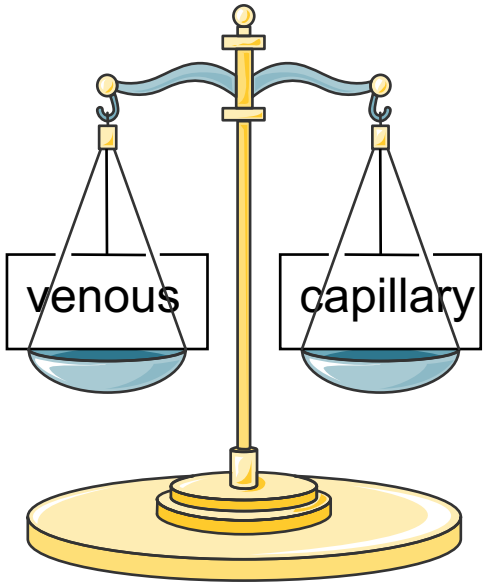
Procaine-Base infusion adapted to acid-base-balance

- Venous Alkalosis
- Peripher Acidosis
- Typic in Cancer and chronic Infections



Infusion with:
- Procaine-Base with max. 0-40 ml Na-bi
- Essent. Amino acids (liver protection)
- Antioxidants and additives

Additional important:
- Reduce of protein, lactic acid products
- Sanitation of heavy metals, focuses and toxins, immunotherapy



- Venous Acidosis or normal pH
- Peripher Acidosis
- Typic in Rheumatism and chronic pain

Infusion with:
- Procaine-Base with max. 80-120 ml Na-bi
- Base infusion (Rau, Wolitscheck)
- Antioxidants and additives

Additional important:
- Alkalic food, bowel cleanse
- Orthomolecular medicine
- Sanitation of focuses and intoxications

Casuistics: systemic Procaine-Therapy

- **Patn. H.R., 34 years old, juvenile rheumatoid arthritis** started with 3 years, ellbow, ankle, MCP hands, knees, Iritis

- State before (9th August 2016): knee swelling right, joint pain in knees, shoulders and ankles, many years MTX and Remicade®, Prednison and NSAR in intervals, would like to come away from pharmaceutical drugs, will change her lifestyle completely, RF positive, CRP 61 mg/l, aBGA: pH: 7.42, BE: - 2.1 mmol/l, Vitamin A and D low, anemia
- Therapeutic procedure: first series (10x) Procaine-Base-infusion weekly (titration till 300 mg Procaine and 100 ml 8,4% Na-bicarbonate), due to much better general condition continuation of infusion twice per month plus ProcCluster® 50 mg every other day
- Additional complementary treatment: change of diet (vegetarian), supplementation with Bosvay® 3x500 mg, Antioxidant complex, Epogam omega 6, Omni Biotic stress repair®, Vitamin D3 3000 IU, Vitamin A, Chlorella 3x3 tabl., Solidago comp. 3x3 drops
- Follow up: very fast reduction of pain, stiffness and joint swelling, very good general condition, has stopped conventional medication after 5 weeks, QBC normal
- last Consultation 21.8.2017: *“I am very happy, all my problems are approximately 95% better, no more swelling of the knee, I am delighted, and since three weeks I am sure: I am pregnant! Please pass on my case to other doctors …”*

Review Article

Medical - Clinical Research & Reviews

The Procaine-Base-Infusion: a Review after twenty Years of Use

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ABSTRACT

The highly-dosed infusion with Procaine-HCl with sodium-bicarbonate as additive was firstly published twenty years ago. The method advanced to a routine in many centers for pain treatment, rehabilitation and natural medicine. The aim of the procedure is the systemic use of the various pharmacological features of Procaine, especially to inhibit pain and inflammation, for vasodilatation, anti-oxidation and to harmonize the vegetative nervous system. On one hand shall the addition of sodium-bicarbonate balance the common latent pH-decrease in the periphery. On the other hand also the degradation products of Procaine (DAE and PABA) have a systemic effect. For the safety of the patients and to improve the success rate of the method it was shown that the classic Procaine-Base-Infusion should be only realized on the base of a prior acid-base-diagnostic.

Keywords
Inflammation, Infusion, Procaine, Pain, Rheumatism, Sodium bicarbonate.

Procaine - The "Polycrest" of Anaesthetics

The local anesthetic Procaine is characterized by a sum of pharmaceutical features. With this in mind Prof. ASLAN, the founder of the eponymous therapy, spoke of it as vitamin-like action beside the anesthetic effects [1]. Further benefits of Procaine are its good tractability and low-grade toxicity due to its short half-life and plasma degradation, the capillary impermeability effect [1], the inhibition of inflammation [2-5], antioxidative and fat-reducing action [6-8]. Contrary to all other anesthetic drugs it causes vasodilatation of vessels and capillaries [9-14]. Therefore, with this therapy it is possible to reach and optimally influence very poorly circulated tissue (especially in case of inflammation and pain). Beside the effect of blocking voltage-dependent sodium channels with the result of a short-term anesthesia [15], additional actions of Procaine on cell membranes and the matrix as well as sympatholytic actions were also discussed [16-21]. KRAUSE has demonstrated that the anti-inflammatory effect of Procaine in rheumatic disease was especially high when combined with an alkali additive [7]. In the field of oncology, the effect of Procaine to reduce side effects from radiotherapy [22,23] or to improve the influence of chemotherapy [24-27] is reported. Furthermore, a wide epigenetic action of the procaine has been demonstrated. A growth-inhibition after incubation with human cancer cells due to the partial blockade of DNA-methylase in vitro was described in 2003 [28]. A diminishing effect of the proportion of 5-methylcytosine into global genomic DNA and cell proliferation due to procaine was reported in a study of tumour suppressor genes [29]. In the same way, inhibition of DNA methylation in human hepatoma cells was found by TADA et al. [30]. In 2016, SABIT et al., showing that the use of procaine combined with carboplatin was the most effective treatment for diminishing the global level of DNA methylation in colon cancer cells [31]. Well examined is also the central modulation of Procaine acting on the stress axis of limbic system with anti-depressive and psycho-analeptic action [32-36].

The Procaine-Infusion – the logic following of other parenteral applications

Depending from the amount of administered Procaine it is possible to increase the effect to influence pain, inflammation and to reach the other described features of the substance (Figure 1). Since a long time it is prevalent to finish a neural therapy session with an i.m. or i.v. shot of 25 till 50 mg Procaine to reach a systemic action. The pure Procaine infusion was firstly described by SEIFEN et al. [37,38] and was mostly used as a continuous treatment in cases of acute pancreatitis [39-41] and for epidural anesthesia in infants,

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Review Article Volume: 4.1 Open Access

Procaine and Procaine-Base-Infusion: A Review of the Safety and Fields of Application after Twenty Years of Use

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Abstract

The highly-dosed infusion with Procaine-HCl with sodium-bicarbonate as additive was firstly published twenty years ago. The method advanced to a routine in many centers for pain treatment, rehabilitation and natural medicine. The aim of the procedure is the systemic use of the various pharmacological features of Procaine, especially to inhibit pain and inflammation, for vasodilatation, anti-oxidation and to harmonize the vegetative nervous system. The addition of sodium-bicarbonate balances the common latent pH-decrease in the periphery. The degradation products of Procaine, diethylaminoethanol (DEAE) and para-amino benzoic acid (PABA), have a systemic effect. For the safety of the patients after 500.000 applications: the procaine-infusion is safe. To improve the success rate of the method of the classic Procaine- Base-infusion should be realized an acid-base-diagnostic.

Keywords: Procaine; Safety of procaine; Inflammation; Infusion; Pain; Rheumatism; Sodium bicarbonate; Neural therapy

Procaine - The "Polycrest" of Anaesthetics

Procaine was originally created in 1905, as the original man-made local anesthetic by a German chemist, Alfred Einhorn (1857-1917). Unlike novocaine (procaine with a sulphite preservative) it doesn't cause allergic reactions in patients. Procaine stabilizes membranes of nerves, sympathetic nerves, and mast cells. It increases vasodilatation and is easily metabolizes in the plasma by the enzyme Pseudo cholinesterase through hydrolysis into para-amino-benzoic acid (PABA) and diethylaminoethanol (DEAE). It has a bitter taste and a half life of 15-20 minutes, which is brief. It is a safe medicine and has been used in famous anti-aging clinics such as Dr. Ana Aslan's clinic in Romania where she treated Bob Hope, Cary Grant, Marilyn Monroe, Winston Churchill and others [1].

The local anesthetic Procaine is characterized by a sum of pharmaceutical features. With this in mind Prof. ASLAN, the founder of the eponymous therapy, spoke of it as vitamin-like action beside the anesthetic effects [1]. Further benefits of Procaine are its good tractability and low-grade toxicity due to its short half-life and plasma degradation, the capillary impermeability effect [1], the inhibition of inflammation [1-4], anti-oxidative and fat-reducing action [5-7]. Contrary to all other anesthetic drugs it causes vasodilatation of vessels and capillaries [8-13]. With this therapy it is possible to reach and optimally influence very poorly circulated tissue (especially in case of inflammation and pain). Beside the effect of blocking voltage-dependent sodium channels with the result of a short-term anesthesia [14], additional actions of Procaine on cell membranes and the matrix as well as sympatholytic actions were also discussed [15-20]. Krause has demonstrated that the anti-inflammatory effect of Procaine in rheumatic disease was especially high when combined with an alkali additive [7]. In the field of oncology, the effect of Procaine to reduce side effects from radiotherapy [21,22] or to improve the influence of chemotherapy [23-26] is reported. The epigenetic action of the procaine and the growth-inhibition after incubation with human cancer cells due to the partial blockade of DNA-methylase in vitro was described in 2003 [27]. A diminishing effect of the proportion of 5-methylcytosine into global genomic DNA and cell proliferation due to procaine was reported in a study of tumor suppressor genes [28]. The inhibition of DNA methylation in human hepatoma cells was found by TADA et al. [29]. In 2016, SABIT et al. [30] showing that the use of procaine combined with carboplatin was the most effective treatment for diminishing the global level of DNA methylation in colon cancer cells. Examined is the central modulation of Procaine acting on the stress axis of limbic system with anti-depressive and psycho-analeptic action [31-36].

Depending from the amount of administered Procaine it is possible to increase the effect to influence pain, inflammation and to reach the other described features of the substance (Figure 1).

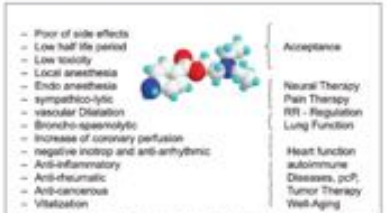


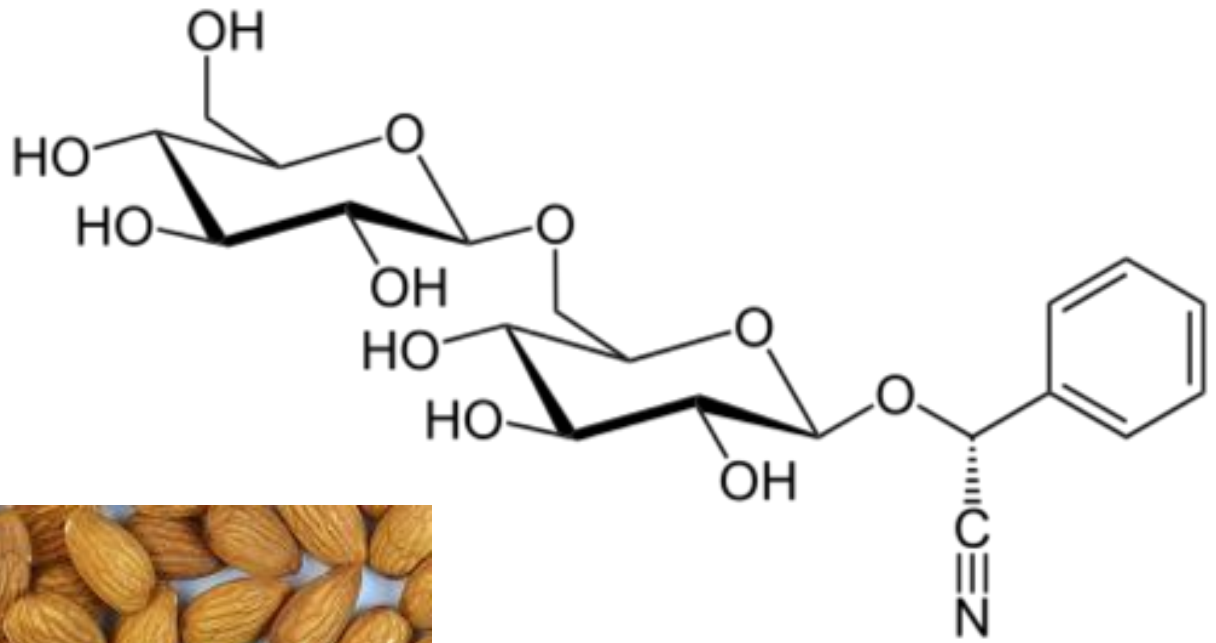
Figure 1: Overview of the most important pharmacological and clinical features of Procaine.

Don´t forget!

The infusion with Procaine-Base, ProcCluster®
and the orally use gives us more possibilities to
use this royal substance in biological medicine.
But it is not an alternatively replacement of
classic neural therapy.

AMYGDALIN

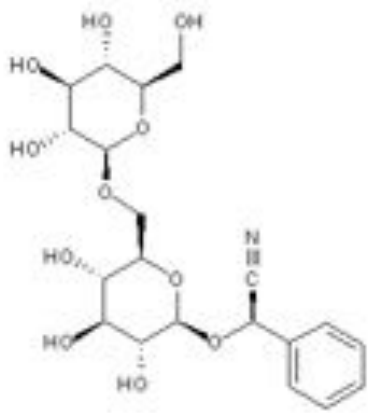
- Cyanogenic glycoside: apricot, apple seeds, bitter almonds & seeds of other drupes



after Dr. Eva Juengel
Uni Frankfurt, 2015

Metabolism of Amygdalin

Amygdalin

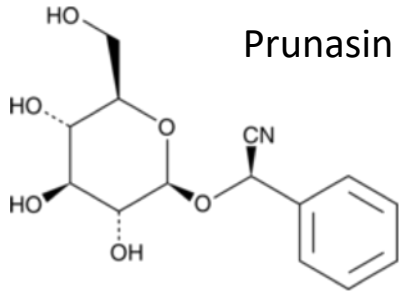


D-mandelonitrile-β-D-gentiobioside

$C_{20}H_{27}NO_{11}$

β-glucosidase

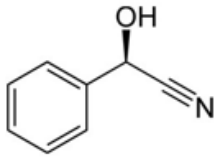
Prunasin



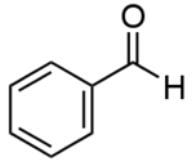
D-mandelontrile β-D-glucoside

$C_{14}H_{17}NO_6$

β-glucosidase



Mandelontrile



Benzaldehyde

Cyanide

$H-C\equiv N$

Cyanide

β-glucosidase

β-D-glucose

Rhodanese

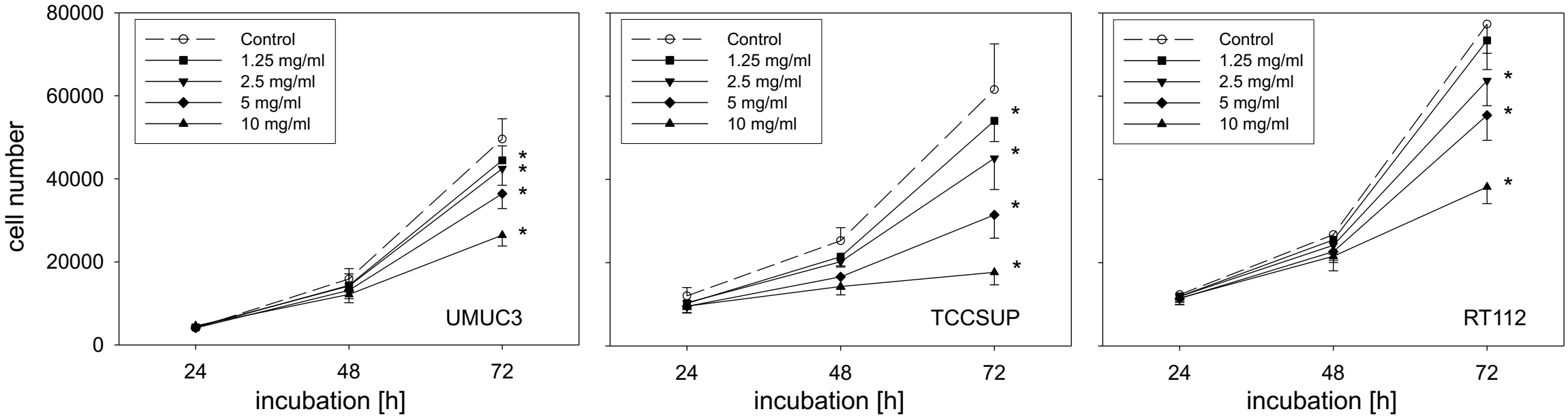
Thiocyanate

after Dr. Eva Juengel
Uni Frankfurt, 2015

ALPSTEINCLINIC

Effect of amygdalin on tumor proliferation

after 24h preparation

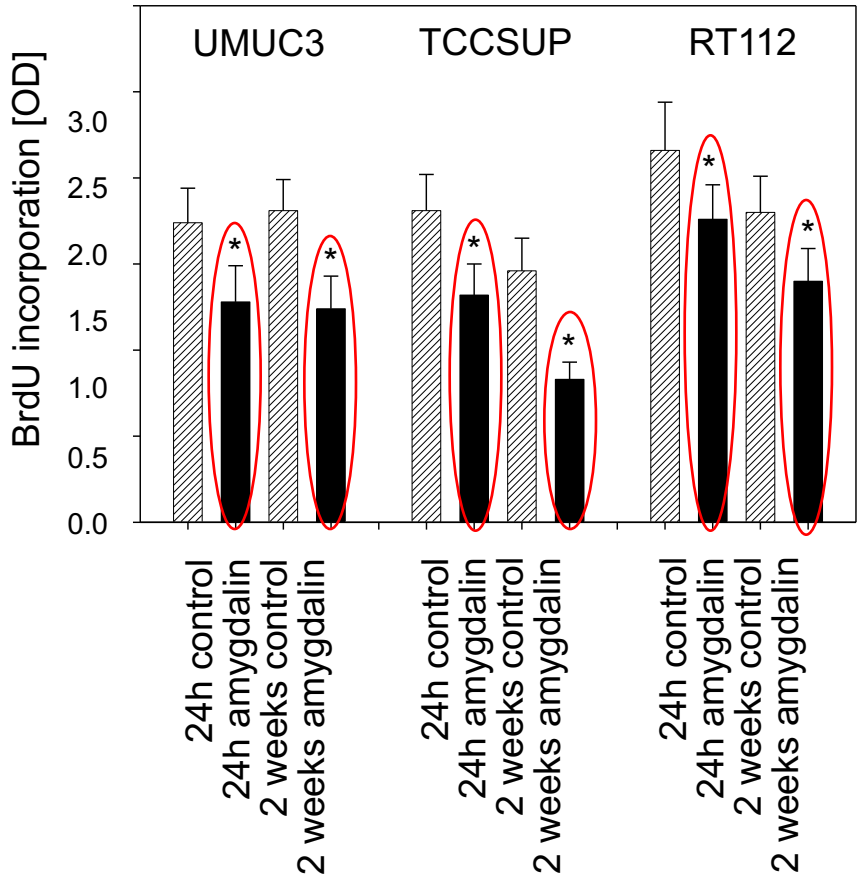


24h + amygdalin => significant inhibition of proliferation (analogeous two weeks + amygdalin)

Makarevic et al. 2014, PLoS One

ALPSTEINCLINIC

Effect of amygdalin on tumor growth

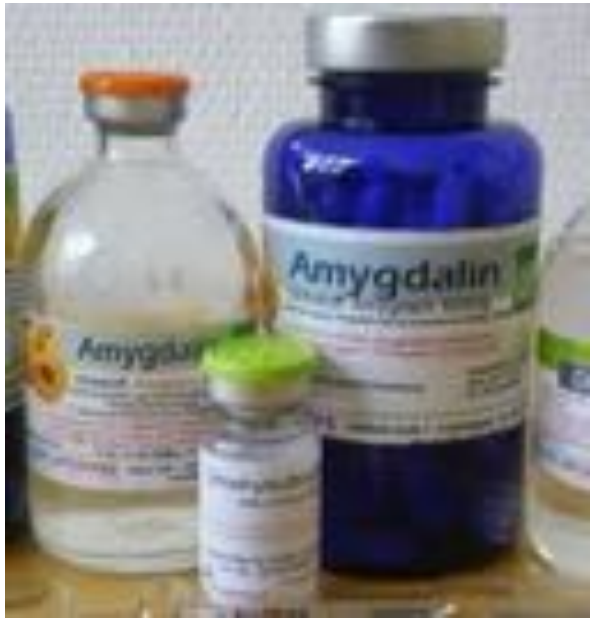


Makarevic et al. 2014, PLoS One

24h and two weeks + amygdalin => significant growth inhibition

Infusion with Amygdalin in practice

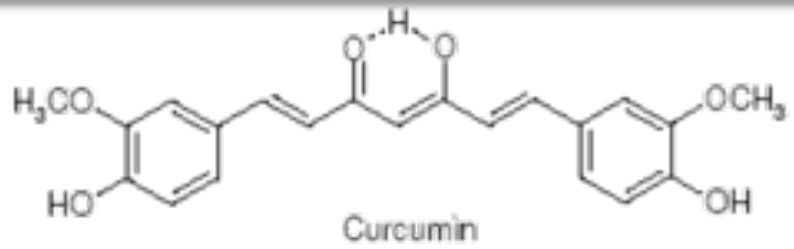
- **Effect**:
  - inhibition of tumor growth
  - prevention and inhibition of metastatic growth and spread
  - İi.v. very sure, good tolerance
- **Dosage**:
  - in 100 – 250 ml isotonic NaCl-solution
  - starting with 6g, dosage increase till 18 g
- **Combination** possible
  - Procaine-base infusion / ProcCluster®
  - Alpstein tumor infusion
  - hyperthermia



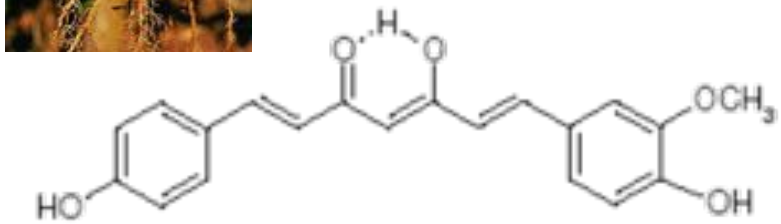
Relation over Curafaktur Heilbronn Germany

Curcuma

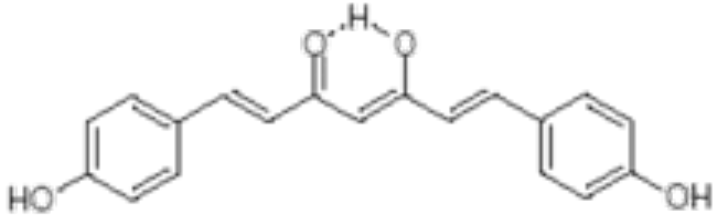
Family of Ginger plants
(*Zingiberaceae*)



Curcumin



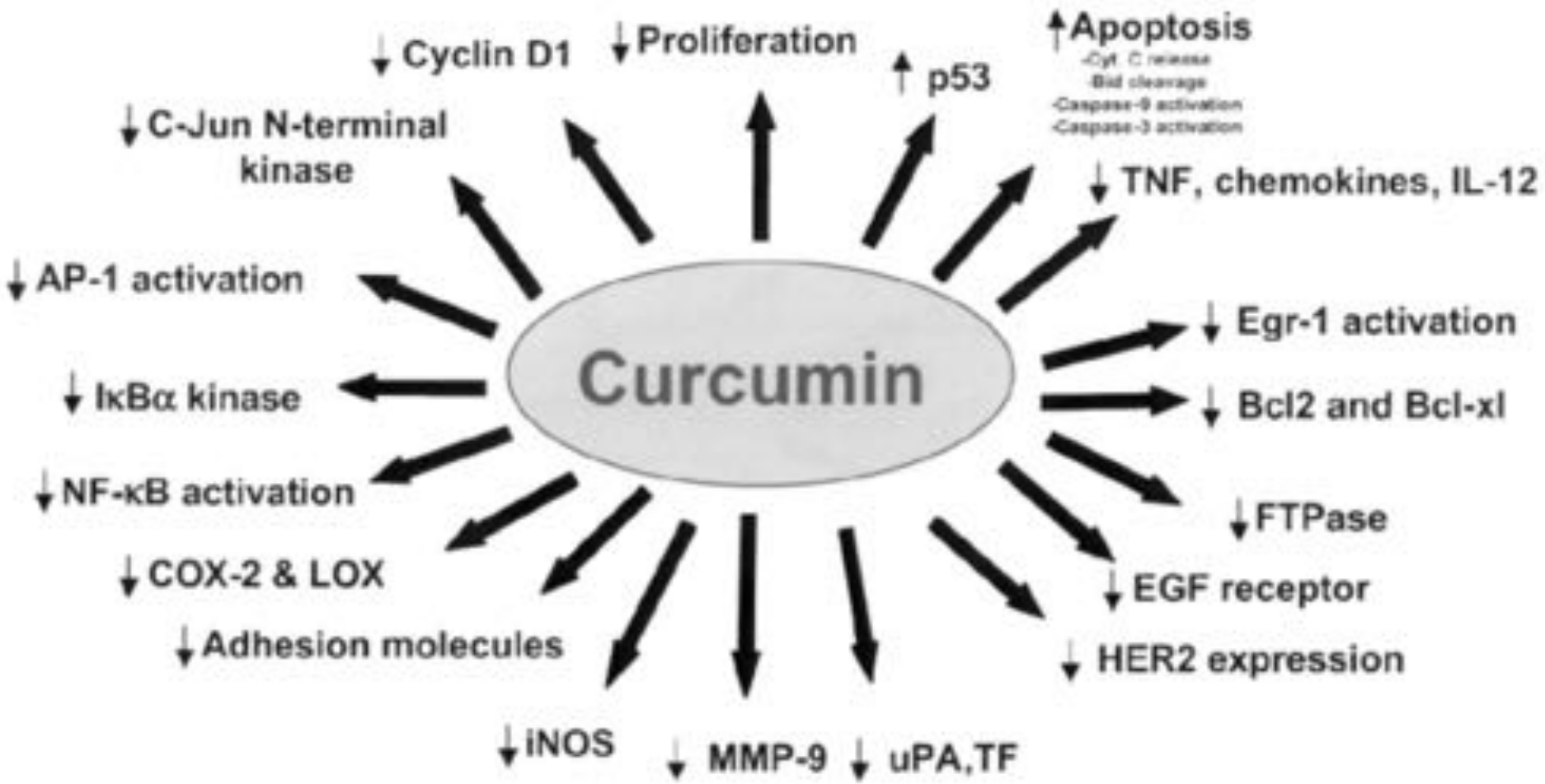
Monodesmethoxycurcumin



Bisdesmethoxycurcumin

- **liver effect:** activates gall flow, decrease of cholesterol and lipids
- **bactericidal, virucidal, against parasites**
- **anti inflammatory** [Srimal und Dhawan,1973]
- **anti cancerous:** inhibition of colon cancer growth [Goel et al., 2001], induction of apoptosis in human leukaemia cells [Kuo et al., 1996].
- **antioxidative** [Sreejayan und Rao, 1996] and **protection of skin** (including during radio therapy) (Okunieff et al. 2003)
- **positive effects** on Mb. Alzheimer patients [Lim et al., 2001]

Curcuma



Aggarwal et al:
Anticancer potential of curcumin (a review)

ALPSTEINCLINIC

Curcuma infusion in practice

- **the remedy**
  - ethanolic educt from the root
  - 250 mg per ml active ingredient
- **dosage:**
  - in 100 ml isotonic NaCl-solution
  - Addition of 2-6 ml = 500 - 1500 mg Curcuma
- **special characteristics**
  - 20 Min. infusion time
  - quite often after 30-35 Mi. a harmless shivering can happen for 10-20 Min.
  - combination with other infusions possible

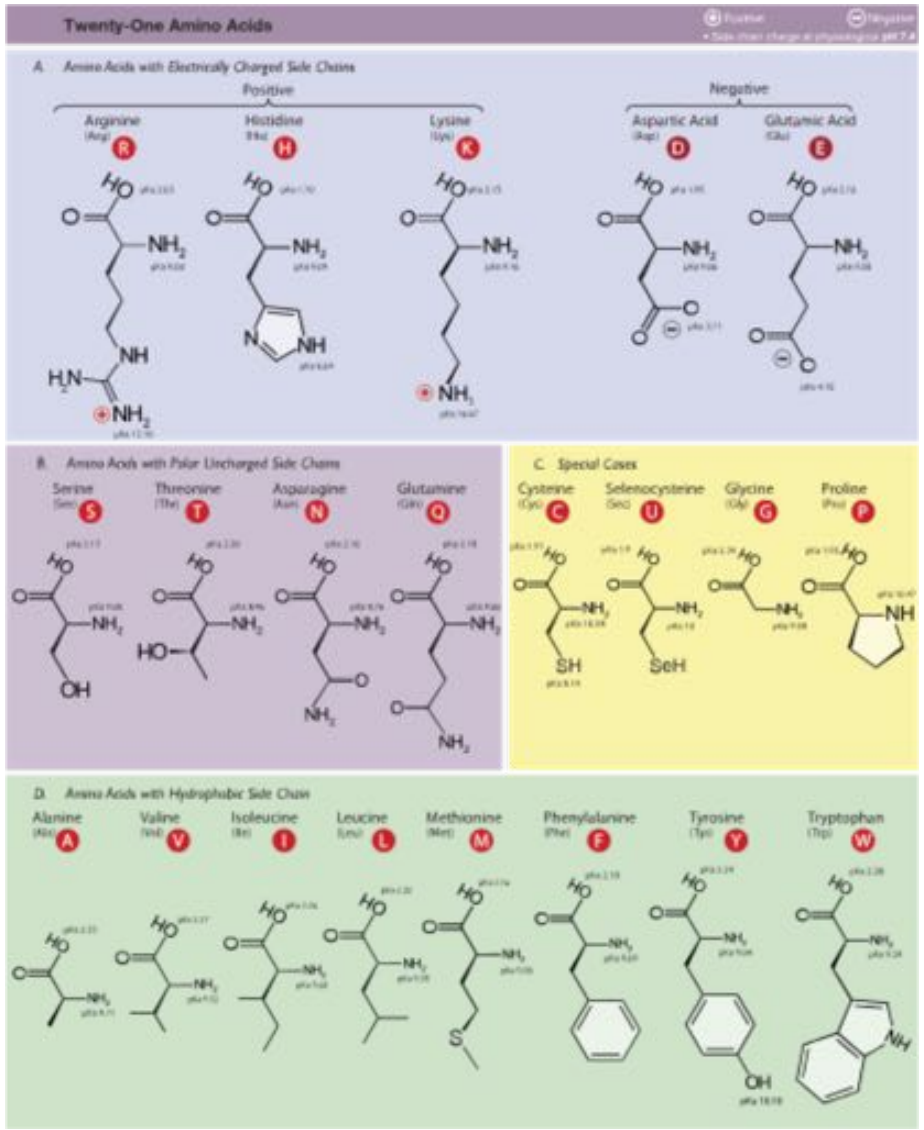
Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ Curcuma (6ml) (CHF 175.00)	1	ml	CHF 175.00
Osmolarität	Volumen	101 ml	
	Molarität	31.31 mmol	
	Osmolarität	**310 mM**	
	Preis	CHF 178.31	

ALPSTEINCLINIC

Amino acids

Daily need of essential amino acids

- L-Leucine 2,0 g
- L-Phenylalanine 1,3 g
- L-Tryptophan 0,3 g
- L-Methionine 0,7 g
- L-Isoleucine 1,5 g
- L-Lysine 1,5 g
- L-Valine 1,6 g
- L-Threonine 1,1 g
- (Histidine) 0,8 g



Source
Wikipedia
Amino acids

Impressions from the Alpstein Clinic Gais, Switzerland

Infusion room

ALPSTEINCLINIC

Infusions to excrete and detox

- **activation** of relevant **inner organs**
  - liver, kidney, intestines
- protection and **support** of **loaded organs**
  - glands (puruitary gland, pancreas, adrenal and thyroid gland)
- **application** of important supportive **vital substances**
  - Magnesium, Selenium, Zinc, amino acids, Vitamin C
- **targeted mobilization** of **toxic substances**
  - DMPS (Dimaval), EDTA
- Additional:
  - **opening** of the cells and **membrans** (DMSO)
  - **vasodilatation** (Procaine)

Alpstein cleansing (detox) infusion

- **Short description:**
  - Infusion to stimulate the excretory function
- **contains**:
  - vitamin C (7,5 g), B vitamins, folic acid
  - minerals and trace elements
  - homeopathic and homotoxicologic remedies
  - **USA**: use HEVERT *hepar comp, lymphaden comp.*
- **effect**:
  - stimulation of lymph system, liver and kidneys
- **application**:
  - 1 – 2 x weekly; all together 5-10 Infusions,
- **Combination**
  - useful with Ozone, Oxyven and after DMPS short infusion

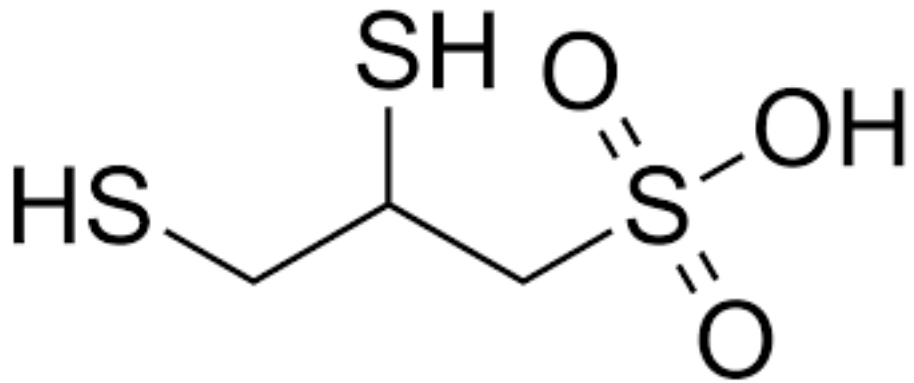
Medikament hinzufügen...	✖ NaCl 0.9% 500ml (CHF 7.95)		
✖ Vitamin C Pascoe 7.5g (50ml) (CHF 20.00)	1	vial	CHF 20.00
✖ Folsäure Injektopas (1ml) (CHF 1.07)	1	ml	CHF 1.07
✖ Ubichinon comp (2.2ml) (CHF 1.96)	1	ml	CHF 1.96
✖ Thyreoidea suis comp. (2ml) (CHF 5.39)	1	amp	CHF 5.39
✖ Gland. supraren. suis (1.1ml) (CHF 5.53)	1	ml	CHF 5.53
✖ Hypophysis suis Injeel (1.1ml) (CHF 3.68)	1	ml	CHF 3.68
✖ Zinkokehl Sanum (2ml) (CHF 1.95)	1	ml	CHF 1.95
✖ Myosotis comp. Heel (2.2ml) (CHF 2.25)	1	ml	CHF 2.25
✖ Ovarium comp Heel (2.2ml) (CHF 5.39)	1	ml	CHF 5.39
✖ Testis comp. Heel (2.2ml) (CHF 5.69)	1	ml	CHF 5.69
✖ Solidago Comp. Heel (1ml) (CHF 5.02)	1	amp	CHF 5.02
✖ Fluimucil 10% (3ml) (CHF 1.43)	1	amp	CHF 1.43
✖ Taraxacum Comp. Heel (1ml) (CHF 2.94)	1	amp	CHF 2.94
✖ Nux vomica Homaccord (2ml) (CHF 2.86)	1	ml	CHF 2.86
✖ Tationil 600mg (4ml) (CHF 6.30)	1	amp	CHF 6.30
Osmolarität	Volumen 570 ml Molarität 244.17 mmol **Osmolarität 428.37 mM** Preis CHF 79.41		

DMPS (Dimaval) Infusion

- **DMPS:** SH-containing complexing substance
- **Action**:
  - Detoxification of heavy metals (especially As, Hg, Ag, Cu, Pl, Ti, Bi, Au)
  - After amalgam removal
- **Application**:
  - 1 - 2 x monthly;
  - a total of 5-10 infusions,
  - infusion within 20 minutes
  - If necessary, the quantity of ampoules can be increased

•**Should be combined with detox infusion**

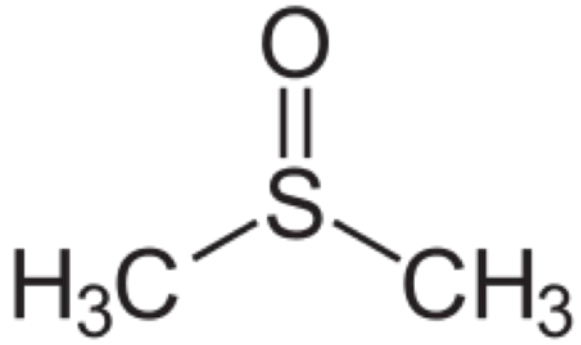
Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ DMPS/Dimaval (5ml) (CHF 52.80)	1	ml	CHF 52.80
Osmolarität	Volumen	101 ml	
	Molarität	33.65 mmol	
	Osmolarität	**333.17 mM**	
	Preis	CHF 56.11	



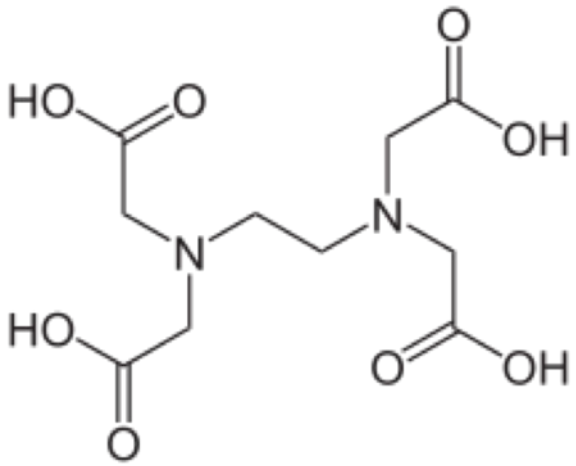
2,3-Dimercapto-1-propanesulfonic acid (DMPS)

DMSO / EDTA injection

- **DMSO:** organosulfur compound
  - vehicle for topical application of pharmaceuticals, anti-inflammatory, antioxidant, bactericid, antifungal
  - «opener» of cell and tissue walls
- **EDTA**: chelate
  - Detoxification of heavy metals (especially Cd, Pb, Ni, Co, Fe)
  - Preventing free radicals from injuring vessel wall (anti-artherosclerotic)
- **Application**:
  - 1 - 2 x monthly;
  - a total of 5-10 injections,
  - Fist injection with half amount



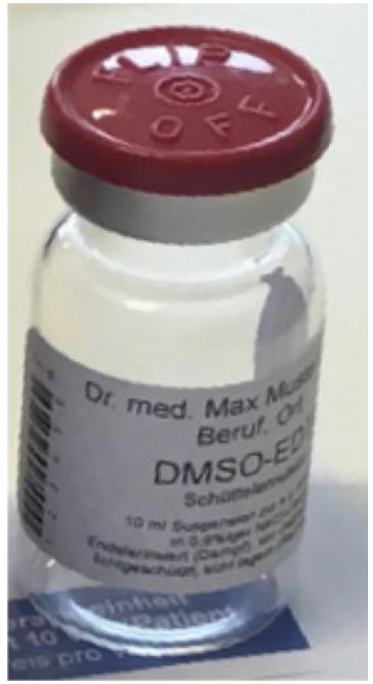
Dimethyl sulfoxide (DMSO)



Ethylenediaminetetraacetic acid (EDTA)

DMSO / EDTA injection

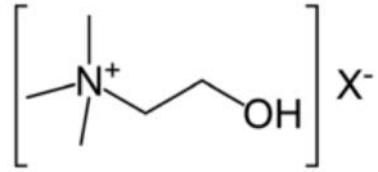
- **Description:**
  - Oil-in-water emulsion with DMSO and EDTA
- **Main indications**:
  - Pain, infections, kidney problems, autoimmune disease, oncology, rheumatism, neuralgia, detoxification, sepsis
- **Advantages**:
  - Pain relief, anti-inflammatory, promotion of mobility, **opening of cell membranes (Detox)** accelerated genesis in acute infection



1: Vian AM, Higgins AZ. Membrane permeability of the human granulocyte to water, dimethyl sulfoxide, glycerol, propylene glycol and ethylene glycol. Cryobiology. 2014 Feb;68(1):35-42. doi: 10.1016/j.cryobiol.2013.11.004. Epub 2013 Nov 20.PubMed PMID: 24269528; PubMed Central PMCID: PMC4388235.2: de Ménorval MA, Mir LM, Fernández ML, Reigada R. Effects of dimethyl sulfoxidein cholesterol-containing lipid membranes: a comparative study of experiments in silico and with cells. PLoS One. 2012;7(7):e41733. doi:10.1371/journal.pone.0041733. Epub 2012 Jul 25. PubMed PMID: 22848583; PubMedCentral PMCID: PMC3404987.3: He F, Liu W, Zheng S, Zhou L, Ye B, Qi Z. Ion transport through dimethylsulfoxide (DMSO) induced transient water pores in cell membranes. Mol Membr Biol.2012 May-Jun;29(3-4):107-13. doi: 10.3109/09687688.2012.687460. Epub 2012 Jun 1. PubMed PMID: 22656651.4: Pfaff RT, Liu J, Gao D, Peter AT, Li TK, Critser JK. Water and DMSO membranepermeability characteristics of in-vivo- and in-vitro-derived and cultured murineoocytes and embryos. Mol Hum Reprod. 1998 Jan;4(1):51-9. PubMed PMID: 9510011.

Choline citrate infusion

- **Description:**
  - Concentrate of choline citrate with magnesium
  - Promotes cholinergic transmission (acetylcholin synthesis)



- **Main indications**:
  - Multiple sclerosis, migraine, headache, dizziness, tinitus, oncology, chronic fatigue syndrome, dysbalance sympathetic / parasympathetic, nervousness, imbalance, hyperactivity, depressive moods; erectile dysfunction
- **Advantages**:
  - Balance of body and psyche, reassuring without sedative effect, less pain in migraine and headaches, **harmonization of vegetative state**

1: Hollenbeck CB. An introduction to the nutrition and metabolism of choline.Cent Nerv Syst Agents Med Chem. 2012 Jun;12(2):100-13. Review. PubMed PMID:22483274.2: Blusztajn JK, Mellott TJ. Choline nutrition programs brain development via DNAand histone methylation. Cent Nerv Syst Agents Med Chem. 2012 Jun;12(2):82-94.Review. PubMed PMID: 22483275; PubMed Central PMCID: PMC5612430.3: Zeisel SH. Choline: critical role during fetal development and dietaryrequirements in adults. Annu Rev Nutr. 2006;26:229-50. Review. PubMed PMID:16848706; PubMed Central PMCID: PMC2441939.4: Zeisel SH. Choline: essential for brain development and function. Adv Pediatr.1997;44:263-95. Review. PubMed PMID: 9265973.

Toxin release with EDTA and DMPS
Measurable effect!

- **Practical study with 75 patients**
  - Toxin diagnostics with DMPS mobilization test
  - 9-12 month drainage therapy, DMPS control
  - 10 infusions (DMPS in basic solution)
  - 10 injections with DMSO / EDTA (5 ml)
- **Oral program**
  - Vit. C 1000 mg, zinc 30 mg, selenium 200 µg, omega 3 fatty acids
  - Chlorella 3x3,
  - Zeolite cps. 2x1,
  - Solidago comp. 2x5 dr., Taraxacum comp. 2x5 dr.,
  - Intestinal up-building program over 3 months,
  - after 3 months Coriandrum Ceres 2x8 dr. (2 weeks per month) and Allium ursinum Ceres 2x5 dr. (2 weeks, per mo.)

ALPSTEINCLINIC

Toxin release with EDTA and DMPS
Measurable effect!

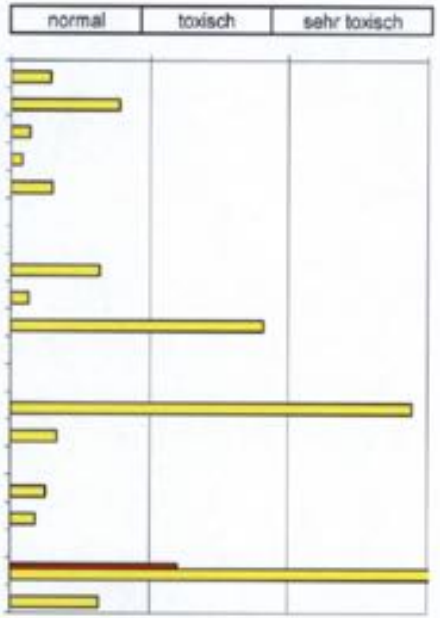
Arzt: Dr. med. Ralf Oettmeier

Multielementanalyse MEA Toxiba-A im Urin-1 vor und im Urin-2 nach DMPS i.v. Mobilisation mit Dimaval®

Durch den Bezug auf die Kreatinin-Konzentration werden Diureseeffekte berücksichtigt. Daraus ergibt sich eine eindeutigere Beurteilung der Analysenergebnisse.

Kreatinin g/Liter	Referenzbereich	Urin 1	Urin 2
Kreatinin ♂	0,40 bis 2,60	0,95 g/L	1,59 g/L

Toxische Elemente µg/g Kreatinin	Referenzbereich Urin-1	Referenzbereich Urin-2	Urin 1		Urin 2	
Aluminium (Al)		< 20	n.a.		5,70	
Arsen (As)		< 38	n.a.		29,70	
Blei (Pb)		< 150	n.a.		20,40	
Cadmium (Cd)		< 5	n.a.		0,40	
Cobalt (Co)		< 1	n.a.		0,30	
Gold (Au)		< 0,6	n.a.		u.v.Ng.	
Indium (In)		< 0,2	n.a.		u.v.Ng.	
Kupfer (Cu)		< 1700	n.a.		1090,00	
Molybdän (Mo)		< 94	n.a.		12,10	
Nickel (Ni)		< 2,2	n.a.		**4,00**	*
Palladium (Pd)		< 0,042	n.a.		u.v.Ng.	
Platin (Pt)		< 1	n.a.		u.v.Ng.	
Silber (Ag)		< 0,9	n.a.		**2,60**	
Strontium (Sr)		< 444	n.a.		147,00	
Thallium (Tl)		< 0,7	n.a.		u.v.Ng.	
Bismut (Bi)		< 1,6	n.a.		0,40	
Zinn (Sn)		< 15	n.a.		2,70	
Zirkonium (Zr)		< 2	n.a.		u.v.Ng.	
Quecksilber (Hg)	< 1	< 50	1,20	*	259,10	*
Kumulative TOX		**< 2474,24**	1,20		1574,40	



DMPS before detox treatment

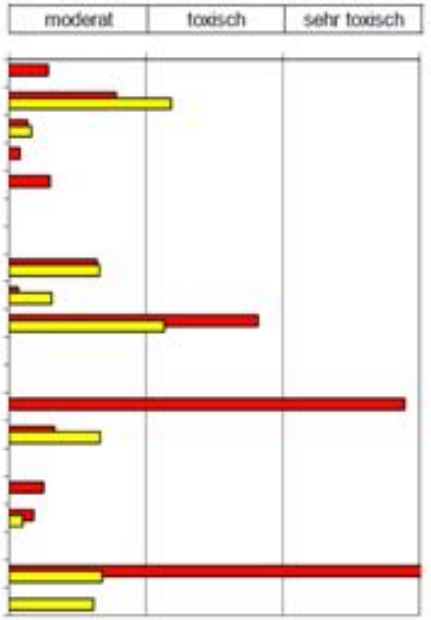
Arzt: Dr. med. Ralf Oettmeier

Nachuntersuchung-B >*Verlaufstabelle A+B*<: Analyse A Urin-2 und Analyse B Urin-2 nach DMPS i.v. Mobilisation

Kreatinin g/Liter	Referenzbereich	Analyse A	Analyse B
Kreatinin ♂	0,40 bis 2,60	1,59 g/l	0,20 g/l

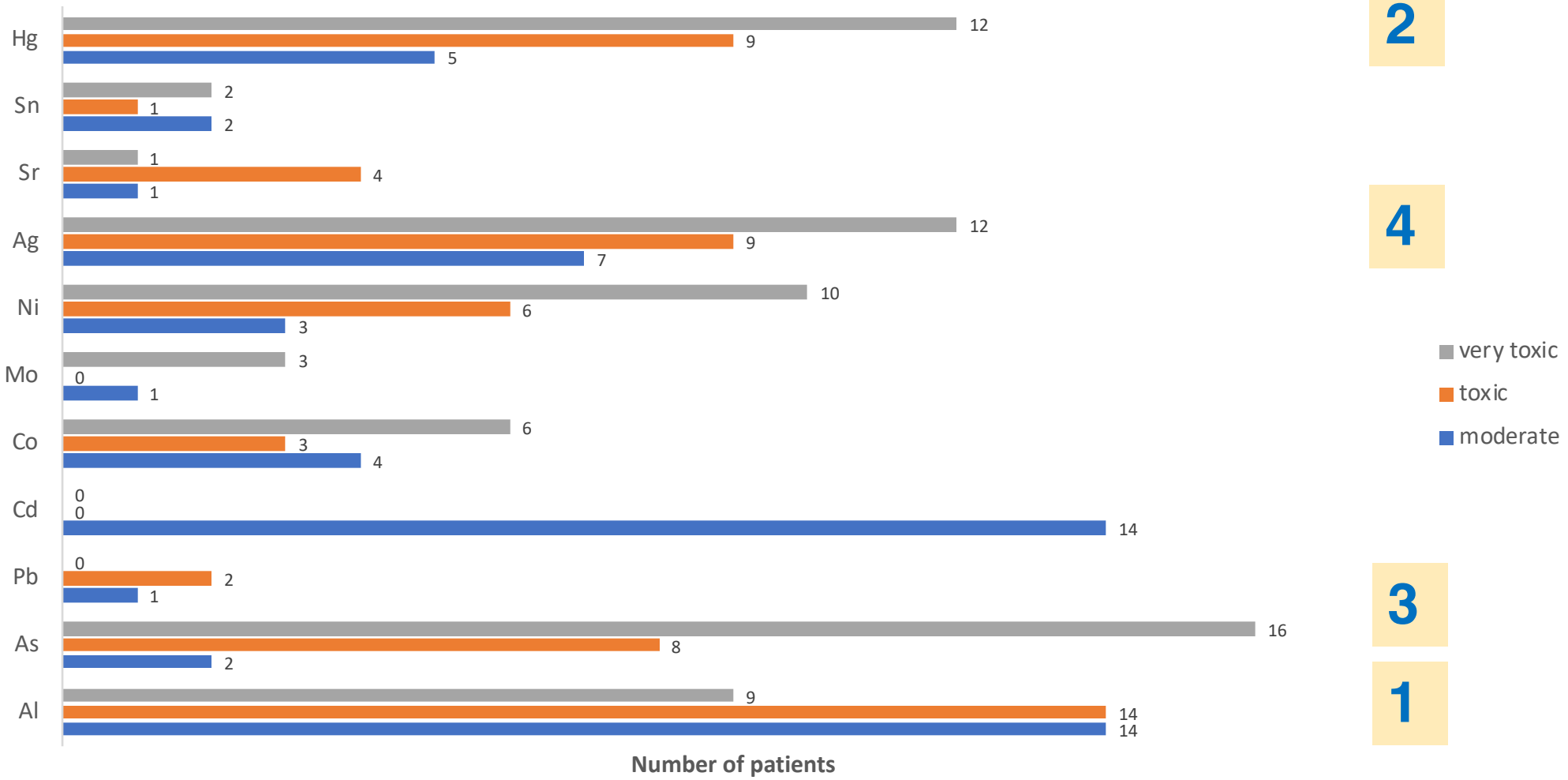
Ergebnisse unterhalb der Nachweisgrenze ergeben durch die formale Umrechnung mit dem niedrigen Kreatinin-Wert einen scheinbar erhöhten Wert.

Toxische Elemente	Referenzbereich	Analyse A		Analyse B	
Aluminium (Al)	< 20	5,70		u.v.Ng.	
Arsen (As)	< 38	29,70		**45,00**	*
Blei (Pb)	< 150	20,40		24,50	
Cadmium (Cd)	< 5	0,40		u.v.Ng.	
Cobalt (Co)	< 1	0,30		u.v.Ng.	
Gold (Au)	< 0,6	u.v.Ng.		u.v.Ng.	
Indium (In)	< 0,2	u.v.Ng.		u.v.Ng.	
Kupfer (Cu)	< 1700	1090,00		1125,00	
Molybdän (Mo)	< 180	12,10		56,00	
Nickel (Ni)	< 2,2	**4,00**	*	**2,50**	*
Palladium (Pd)	< 0,042	u.v.Ng.		u.v.Ng.	
Platin (Pt)	< 1	u.v.Ng.		u.v.Ng.	
Silber (Ag)	< 0,9	**2,60**		u.v.Ng.	
Strontium (Sr)	< 444	147,00		295,00	
Thallium (Tl)	< 0,7	u.v.Ng.		u.v.Ng.	
Bismut (Bi)	< 1,6	0,40		u.v.Ng.	
Zinn (Sn)	< 15	2,70		1,50	
Zirkonium (Zr)	< 2	u.v.Ng.		u.v.Ng.	
Quecksilber (Hg)	< 50	**259,10**	*	34,00	
Kumulative TOX	**< 2560,24**	1574,40		1583,50	



DMPS after one year detox treatment

Exposure situation before the detox therapy



2

4

3

1

very toxic

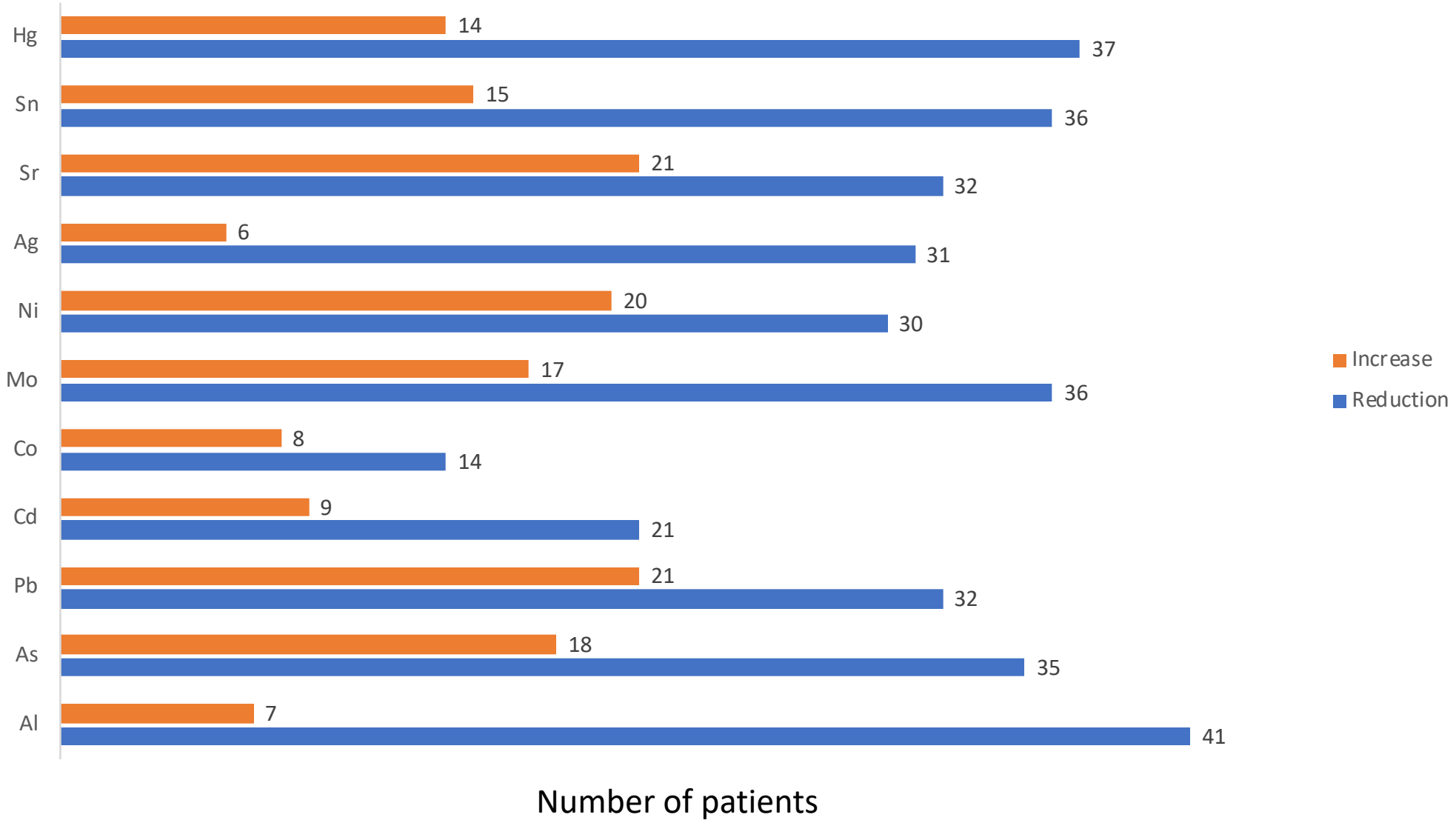
toxic

moderate

Results after DMPS Testing (53 patients)

ALPSTEINCLINIC

Response to the detox therapy



Reduction and increase in metal exposure after drainage therapy in the DMPS test (53 patients)

inclusion body myositis

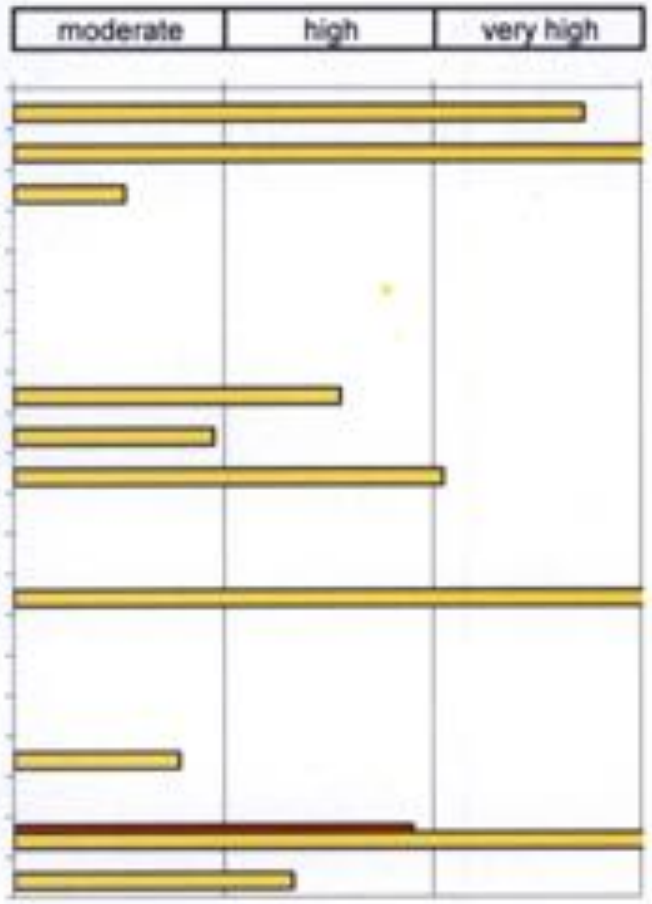
- 54 years old woman
- since 1,5 y. progressive muscular weakness of left arm and rigth leg, going stairs distinct difficult
- in the scope of standard diagnostics a neurological deseas was excluted
- the diagnosis was evaluated due to muscle biopsy assessment
- all kinds of treatments at two universities without any effect – slowly progress

				13.02.2015
CK Creatin-Kinase	U/l	38		160	871
CK-MB (immunologisch)	mcg/l			7.5	64.7
Creatinin	mcmol/l	50		98	41
Protein	g/l	63		83	71
Eisen	mcmol/l	4.1		23.9	15.8
ferritin	µg/l	30		400	
Ferritin	mcg/l	30		200	239
CRP C-reaktives Protein	mg/l			5	<5.0
Glucose	mmol/l	3.9		5.8	4.2
ASAT / GOT	U/l			36	48
AP	U/l			115	61

Casuistics: DMPS mobilization Test

inclusion body myositis

toxic element	reference range urine-1	reference range urine-2	urine-1		urine-2	
aluminium (Al)		< 20	n.a.		**54,50**	
arsenic (As)		< 38	n.a.		**200,00**	*
lead (Pb)		< 150	n.a.		79,10	
cadmium (Cd)		< 5	n.a.		u.v.Ng.	
cobalt (Co)		< 1	n.a.		u.v.Ng.	
gold (Au)		< 0,6	n.a.		u.v.Ng.	
indium (In)		< 0,2	n.a.		u.v.Ng.	
copper (Cu)		< 1700	n.a.		**2645,00**	*
molybdenum (Mo)		< 94	n.a.		89,10	
nickel (Ni)		< 2,2	n.a.		**4,50**	*
palladium (Pd)		< 0,042	n.a.		u.v.Ng.	
platinum (Pt)		< 1	n.a.		u.v.Ng.	
silver (Ag)		< 0,9	n.a.		**5,50**	
strontium (Sr)		< 444	n.a.		n.a.	
thallium (Tl)		< 0,7	n.a.		u.v.Ng.	
bismuth (Bi)		< 1,6	n.a.		u.v.Ng.	
tin (Sn)		< 15	n.a.		11,80	
zirconium (Zr)		< 2	n.a.		u.v.Ng.	
mercury (Hg)	< 1	< 50	**1,90**	*	**196,40**	*
cumulativ TOX		**< 2474,24**	**1,90**		3285,90	



inclusion body myositis

Course / follow up

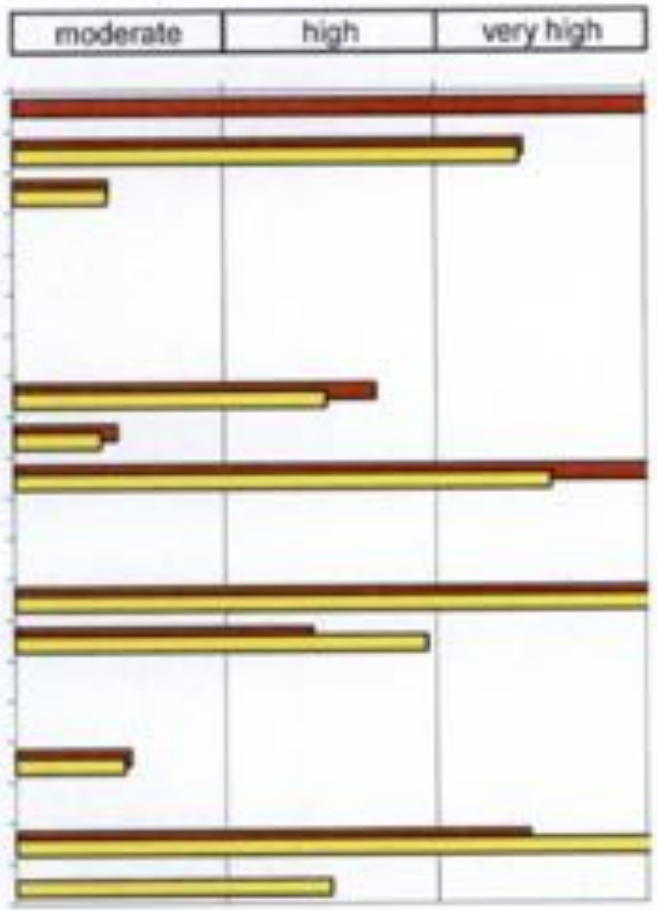
- chronic fatigue and weakness were better stepwise, also the muscular strength stepwise better
- meanwhile she is able to go (also stairs) normally. feels vital and is able to concentrate better
- The improvement is unclear for the neurologist (spontaneous healing?)

					19.09. 2017	17.05. 2016			13.02.2015
CK Creatin-Kinase	U/l	38		160	408	655			871
CK-MB (immunologisch)	mcg/l			7.5	32.5				64.7
Creatinin	mcmol/l	50		98	43	43			41
Protein	g/l	63		83	73	70			71
Eisen	mcmol/l	4.1		23.9	13.4	16.1			15.8
ferritin	µg/l	30		400				237	
Ferritin	mcg/l	30		200	164	180			239
CRP C-reaktives Protein	mg/l			5	<5.0	<5.0			<5.0
Glucose	mmol/l	3.9		5.8	5.3	4.9			4.2
ASAT / GOT	U/l			36	33	44			48
AP	U/l			115	74	79			61

casuistics DMPS Test after 17 Mo.

- ***inclusion body myositis***

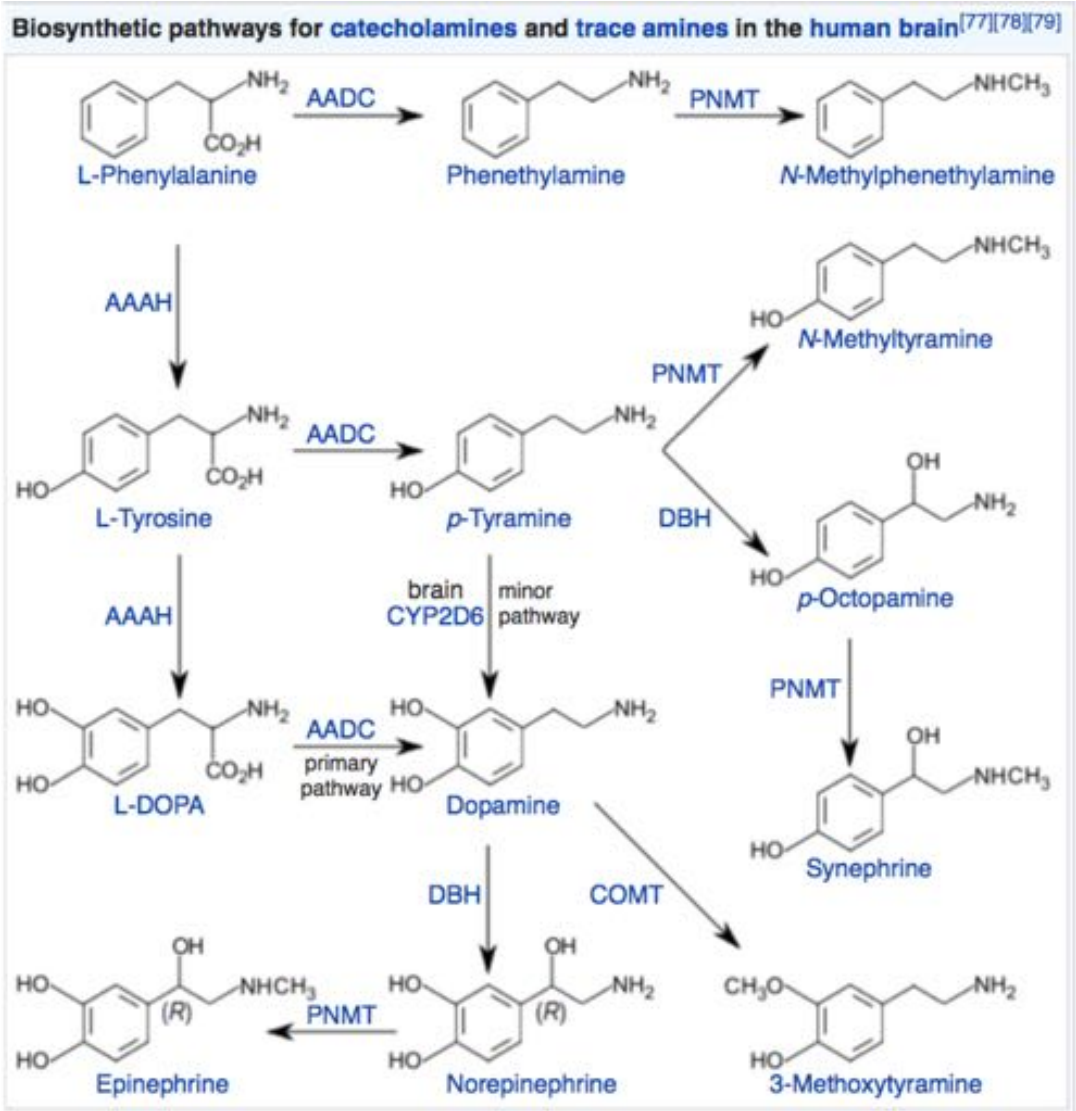
toxic element	reference range	analysis C		analysis D	
aluminium (Al)	< 20	**102,70**		u.d.l.	
arsenic (As)	< 38	**91,80**	*	**91,10**	*
lead (Pb)	< 150	67,30		66,70	
cadmium (Cd)	< 5	u.d.l.		u.d.l.	
cobalt (Co)	< 1	u.d.l.		u.d.l.	
gold (Au)	< 0,6	u.d.l.		u.d.l.	
Indium (In)	< 0,2	u.d.l.		u.d.l.	
copper (Cu)	< 1700	**2918,00**	*	**2522,00**	*
molybdenum (Mo)	< 180	88,20		74,40	
nickel (Ni)	< 2,2	**8,20**	*	**5,60**	*
palladium (Pd)	< 0,042	u.d.l.		u.d.l.	
platinum (Pt)	< 1	u.d.l.		u.d.l.	
silver (Ag)	< 0,9	**7,30**		**4,40**	
strontium (Sr)	< 444	**627,00**		**867,00**	
thallium (Tl)	< 0,7	u.d.l.		u.d.l.	
bismuth (Bi)	< 1,6	u.d.l.		u.d.l.	
tin (Sn)	< 15	8,20		7,80	
zirconium (Zr)	< 2	u.d.l.		u.d.l.	
mercury (Hg)	< 50	**121,80**	*	**188,90**	*
cumulativ TOX	**< 2560,24**	**4040,50**		**3827,90**	



ALPSTEINCLINIC

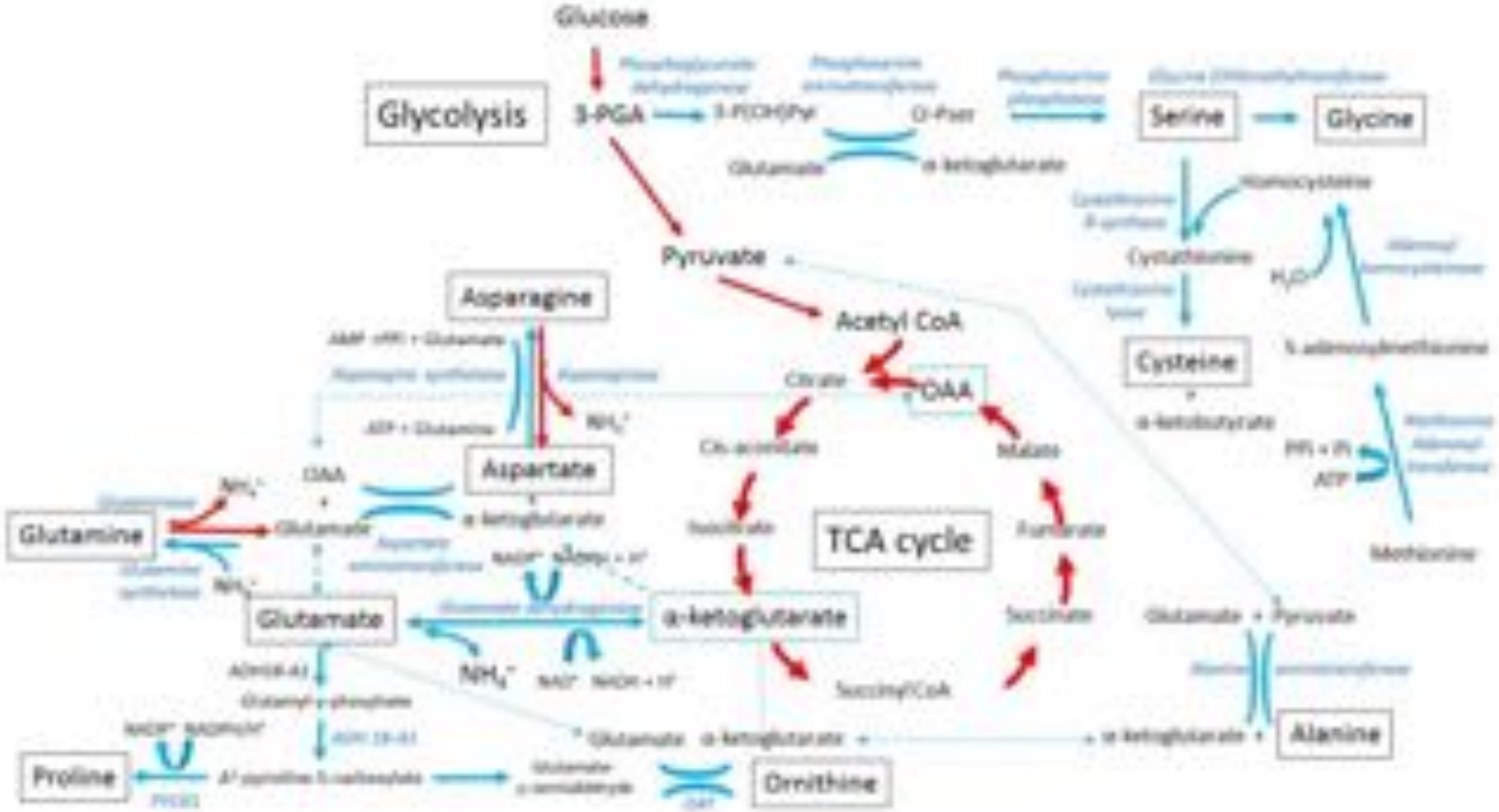
Amino acids

- Organic compounds containing amine and carboxyl functional groups
- 20 appear in the genetic code
- Main “building block” of proteins for muscles and tissues
- Participate in the process of neurotransmitter transport, biosynthesis and up-building of catecholamines
- Epigenetic importance: DNA methylation and acetylation
- Support the detox function of liver



ALPSTEINCLINIC

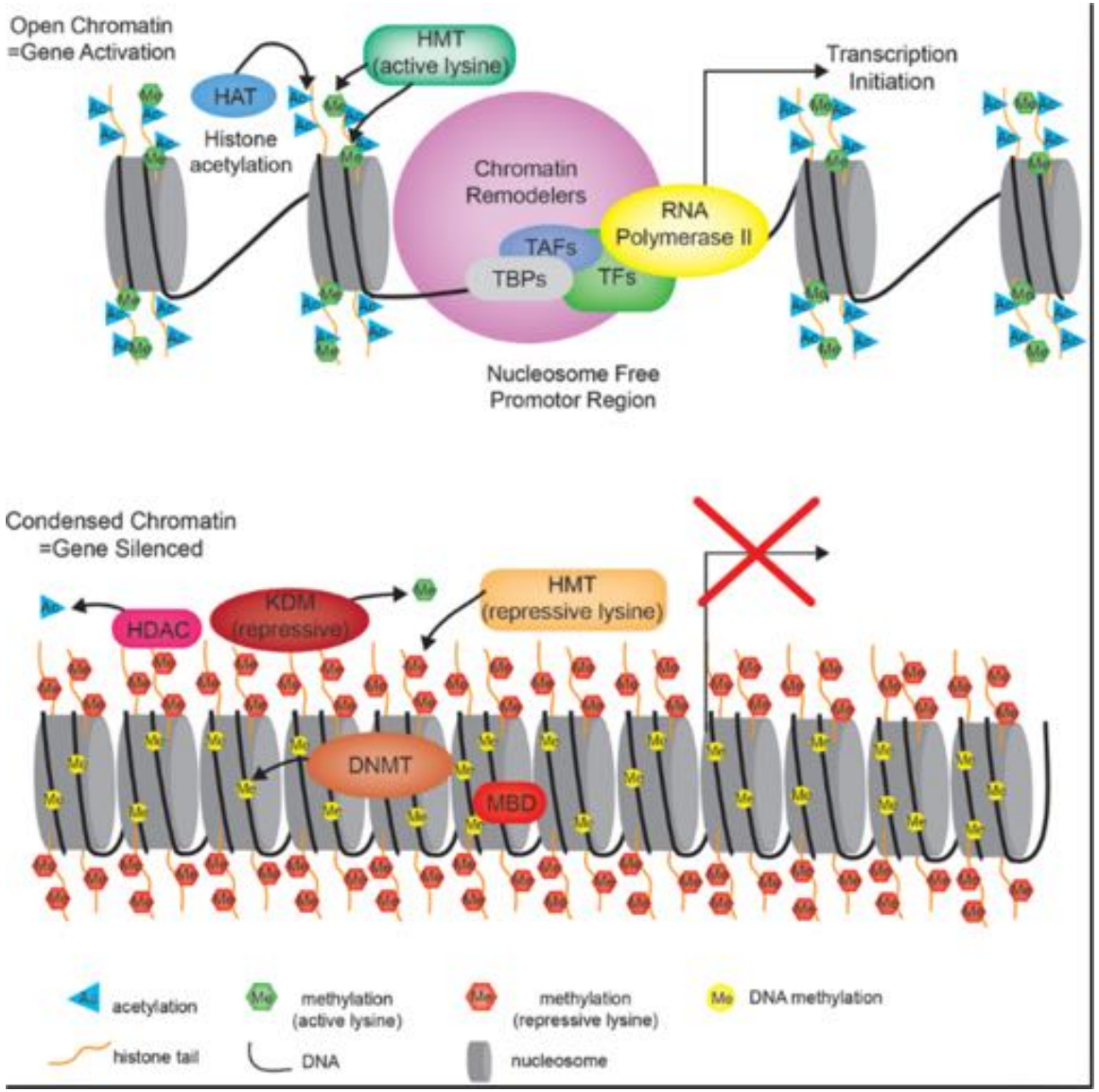
Amino acids and Liver



Haucke V, Protein Turnover & Amino Acid Catabolism, In: Berg JM et al,, Biochemistry, 5th ed., Chapter 23; 2002, WH Freeman, New York.

ALPSTEINCLINIC

Amino acids and Epigenetics

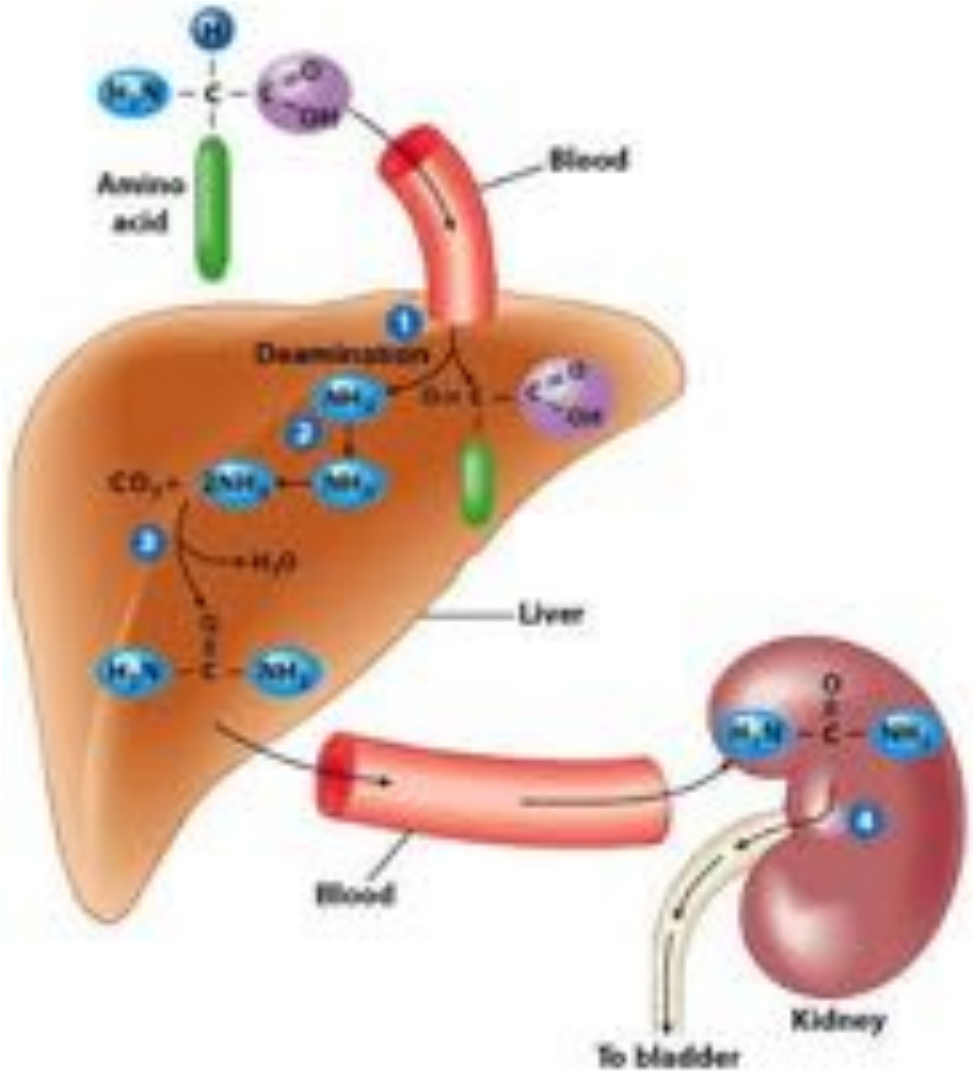


Amino acids, as well as phytochemicals (secondary plant substances) and procaine, are essential for epigenetic processes

(Methylation, Acethylation, Modification of Histons)

Amino acids and ammonia

- As ammonia would be toxic to the body, the liver transforms it into urea, which is much less toxic.
- The blood circulation transports urea from the liver to kidneys



Important Amino acids

L-Ornithine

- occurs mainly in meat and fish, eggs and milk
- works with the breakdown of ammonia in the liver
- serves as a carrier in the urea cycle
- increases the production and release of growth hormone
- Studies have shown that L-ornithine stimulates the thymus gland
- improves sleep

L-Arginine

- important energy substrate for the cells of the intestinal mucosa
- Stimulates thymus gland, thereby increasing the activity and number of defense cells
- Substrate for the enzyme nitric oxide synthase (NOS), which is responsible for the production of nitric oxide (NO).
- Protects the vascular system by relaxing blood vessels, improving blood circulation, normalizing blood pressure, and counteracting the development of thrombosis
- positive influence on collagen synthesis and wound healing

ALPSTEINCLINIC

Alpstein Liver-Metabol infusion

Bezeichnung	mg	Stoffgruppe
D-Galaktose	500	Monosaccharid
Ornithinaspartat	250	Aminosäure
Methionin	125	Aminosäure
L-Arginin-HCl	125	Aminosäure
Lysin	250	Aminosäure
N-Acetyl-Cystein	125	Aminosäure
Taurin	250	Aminosulfonsäure
Levo-Carnitin	200	zwitterion. Alkohol

Indication:

- Activation of the cell metabolism,
- liver detoxification,
- Metabolic syndrome,
- lack of energy. Chronic fatigue syndrome,
- Obesity , Weight Loss

Application:

- 1-2 x weekly; all together 3 – 5 Infusions
- i.v., in 250ml 0,9% NaCl basic solution

Combination

- do not add any other medicines to the infusion bottle; other infusions in advance or afterwards depending on compatibility possible

Important Amino acids

L-Citrulline

- Non-proteogenic amino acid,
- intermediate in uric acid metabolism
- Mostly in melons
- NO release and increase arginine levels
- Reduction of lactate and ammonia formation
- Increases ATP and phosphocreatine renewal
- Improvement of muscle activity, strength gain

Phenylanaline

- To build up neurotransmitters Epinephrine, norepinephrine, dopamine
- mood-enhancing, alertness, Memory, high spirits
- for depression 100-200mg several times a day between the meals
- appetizing
- formation of thyroxine, triiodothyronine
- analgesic in cases of muscle strain, migraine, arthritis (in combination with painkillers)

Important Amino acids

Thyrosine

- Precursor for epinephrine, norepinephrine, dopamine
- increases concentration / mental abilities / Attention ("smart drug") Delays fatigue
- mood-enhancing supports antidepressive therapy
- appetite-inhibiting
- for stress release

L-Lysine

- pronounced antiviral effect
- Optimization of the immune system
- precursor of carnitine (promotes carnitine synthesis)
- increases intestinal Ca^{++} absorption
- reduction of atherogenic potential
- reduction of Lipoprotein A

Important Amino acids

Carnitine

- is formed from methionine and lysine
- pronounced antioxidant
- influences the immune system - Phagocytosis increase of granulocytes - Activation of monocytes / macrophages - Activation of T and B lymphocytes Activation of NK and TNF release - improves phagocytosis
- acts on the cardiovascular system (including antithrombotic effect)
- acts on the nervous system

Taurine

- Water electrolyte household
- Economization of heart work
- heart failure / heart protection
- Influence on ion channels Nerve membranes
- Phase II detoxification substrate
- hepatitis
- Psychosis in alcoholism
- Energy support generally

Important Amino acids

Glycine

- Building block of acetylcholine and GSH
- can be formed from threonine
- supports detoxification reaction in the liver (Biotransformation Phase II)
- important in the CNS (improves neuromuscular control as inhibitory neurotransmitter)
- reduces spasms

Asparagine

- is converted to oxaloacetate
- Oxaloacetate is used in gluconeogenesis and Processing of acetyl-CoA in the citrate cycle consumed
- Deficiency: Inhibition of the citrate cycle
- Build up immune system, RNA, DNS
- Ammonia detoxification liver
- Energy metabolism

ALPSTEINCLINIC

Alpstein Mitochondria infusion

Substanz	mg	Substanzklasse
Calciumchlorid-Dihydrat	23	Mineral
Magnesiumchlorid-Hexahydrat	19	Mineral
Kaliumchlorid	8	Mineral
Zinkglukonat	38	Spurenelement
L-Lysinhydrochlorid	185	Aminosäure
N-Acetyl-L-Cystein NAC	155	Aminosäure
L-Arginin	100	Aminosäure
L-Carnosin	102	2 x Aminosäure
Levocarnitin	500	zwitterion. Alkohol
Taurin	751	Aminosulfonsäure
Hydroxocobalamin Hydrochlorid	0,5	Vitamin B12
Folsäure	11	Vitamin B9
Dexpanthenol	51	Vitamin B5
Nicotinamid	55	Vitamin B3
Pyridoxinhydrochlorid	51	Vitamin B6
Riboflavin 5´-Monophosphat	5,0	Vitamin B2
Thiaminchlorid Hydrochlorid	51	Vitamin B1

Indication:

- mitochondrial disorders,
- chronic inflammatory diseases,
- unclear complaints,
- weakened immune system,
- Reconvalescence
- Energy support

Application:

- 1-2 x weekly; all together 3 – 5 Infusions
- Ready mixed 250 ml solution in NaCl

Combination

- do not add any other medicines to the infusion bottle; other infusions in advance or afterwards depending on compatibility possible

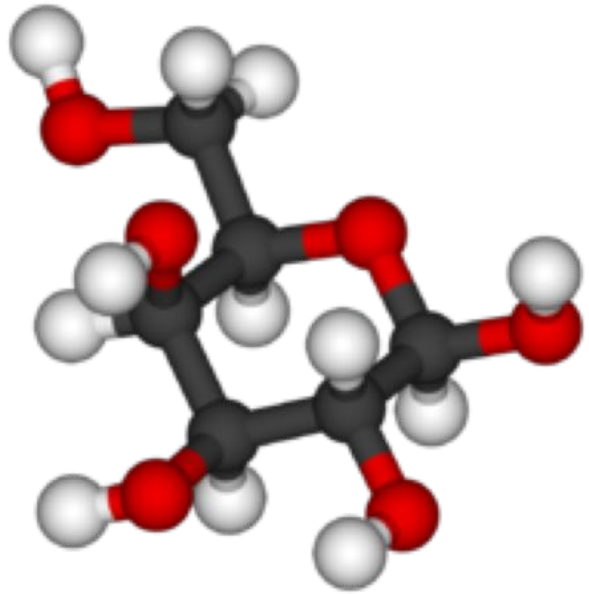
Impressions from the Alpstein Clinic Gais, Switzerland

The Clinic

ALPSTEINCLINIC

Galactose

- Monosaccharide sugar, basic building block of live
- Alternative energy source for brain cells
- Substance of intracellular framework (important for cell stability)
- covers every cell flatly and thus secures the contact between the cells
- Condition for vital information transfers from cell to cell and from cell to organ
- Utilization of D-galactose in the body is independent of insulin
- Galactose binds e.g. highly toxic ammonia



D-**Galactose**

ALPSTEINCLINIC

Alpstein Galactose infusion

Bezeichnung	mg	Stoffgruppe
Galaktose	5.000	Monosaccharid
Ornithinaspartat	2.000	Aminosäure
Kalium-L-Aspartat ½H2O	1.000	Mineral
Magnesiumaspartat 2H2O	1.000	Mineral
Zink-Glukonat	6	Spurenelement

Indication:

- Dementia, Alzheimer's, Parkinson's disease
- concentration problems
- neuro-degenerative diseases
- Oncology
- Metabolic syndrome; Obesity
- Detoxification especially of ammonia (nitrosative stress, decay dysbiosis
- insomnia
- all insulin resistance-associated diseases (including high blood pressure); Diabetes

Application:

- 1 x weekly; all together 3 – 5 Infusions
- i.v., in 500ml 0,9% NaCl basic solution

Combination

- do not add any other medicines to the infusion bottle; other infusions in advance or afterwards depending on compatibility possible

ALPSTEINCLINIC

Alpstein B-Complex Mineral infusion

Bezeichnung	mg	Stoffgruppe
Thiaminchlorid Hydrochlorid	200	Vitamin
Riboflavin 5´-Monophosphat	20	Vitamin
Nicotinamid	200	Vitamin
Dexpanthenol	200	Vitamin
Pyridoxinhydrochlorid	200	Vitamin
Hydroxocobalamin Hydrochlorid	1	Vitamin
Magnesiumchlorid-Hexahydrat	40	Mineral
Calciumchlorid-Dihydrat	45	Mineral
Kaliumchlorid	15	Mineral

Indication:

- lack of B vitamins; especially through chemo-radiotherapy,
- chronic inflammatory gastrointestinal diseases, antibiotics;
- in neuropathies and chronic pain
- "neurasthenia"

Application:

- 1-2 x weekly; all together 3 – 5 Infusions
- i.v., in 250ml 0,9% NaCl basic solution

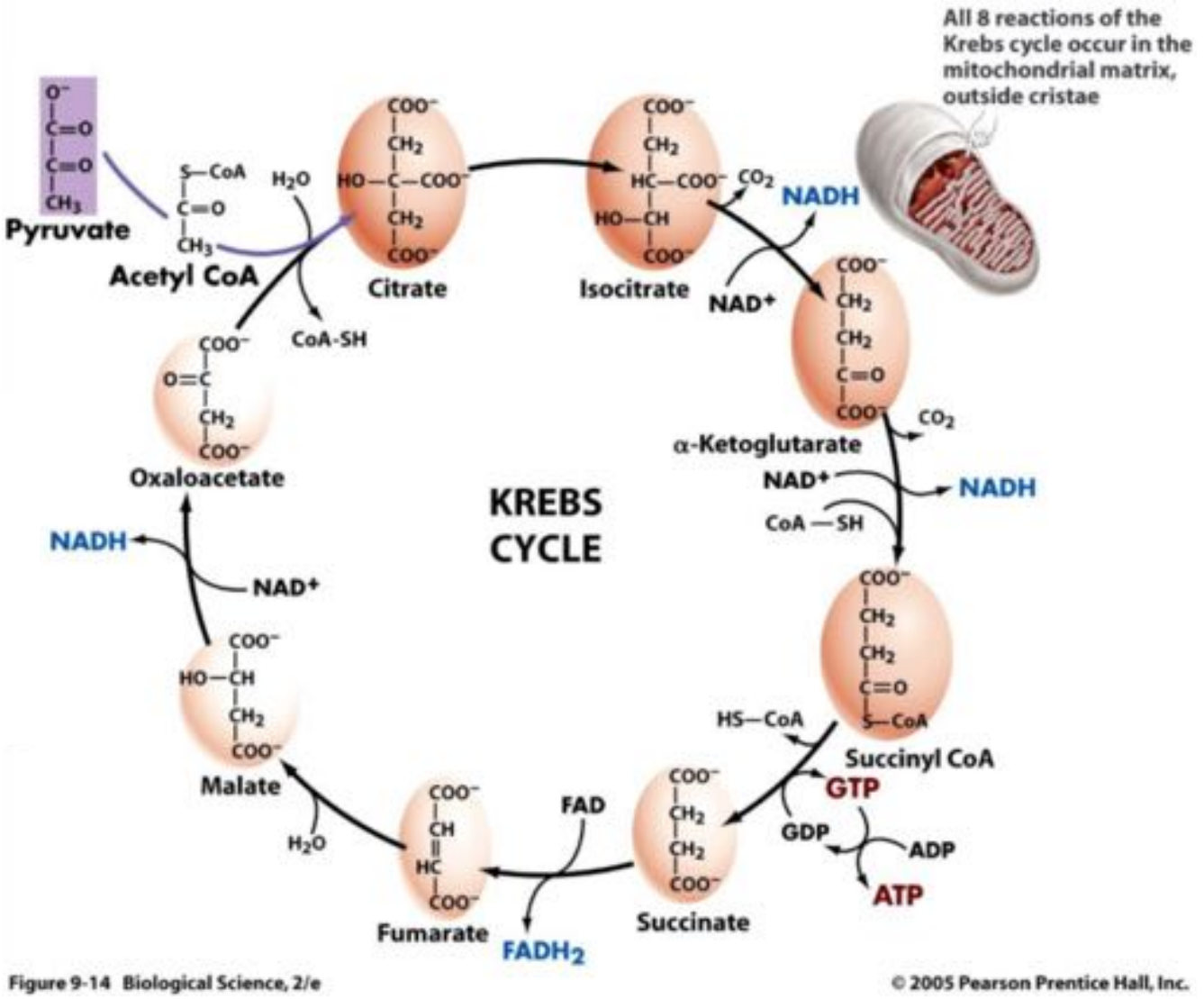
Combination

- do not add any other medicines to the infusion bottle; other infusions in advance or afterwards depending on compatibility possible

Alpstein Lactate – Citric acid circle infusion

- In the context of the targeted therapy of chronic energy weaknesses
- To support lactate metabolism
- To reduce metabolic alkalosis *(see example measured with EPOC system)*

Analyt	Ergebnis		Referenzbereich
pH	7,431		7,350 - 7,450
pCO2	52,9	mmHg	35,0 - 48,0
pO2	34,4	mmHg	83,0 - 108,0
Na+	140	mmol/L	138 - 146
K+	3,0	mmol/L	3,5 - 4,5
Cl-	96	mmol/L	98 - 107
Ca++	1,21	mmol/L	1,15 - 1,33
Glu	8,6	mmol/L	4,1 - 5,5
Lac	1,63	mmol/L	0,56 - 1,39
Crea	0,87	mg/dL	0,51 - 1,19
Hct	46	%	38 - 51
cHgb	15,7	g/dL	12,0 - 17,0
cHCO3-	35,2	mmol/L	21,0 - 28,0
cTCO2	36,8	mmol/L	22,0 - 29,0
BE(ecf)	10,9	mmol/L	-2,0 - 3,0
BE(b)	8,8	mmol/L	-2,0 - 3,0
cSO2	66,4	%	94,0 - 98,0



ALPSTEINCLINIC

Alpstein Lactate – Citric acid circle infusion

1st infusion

Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ Milchsäure Pflüger (5ml) (CHF 3.66)	5	ml	CHF 3.66
✖ ATP Injeel (1ml) (CHF 3.57)	1	ml	CHF 3.57
✖ Natrium oxalaceticum (CHF 5.00)	1	amp	CHF 5.00
✖ Magnesium manganum phosphoricum (1.2ml) (CHF 5.00)	1	amp	CHF 5.00
✖ Natrium pyruvicum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00

2nd infusion

Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ Milchsäure Pflüger (5ml) (CHF 3.66)	5	ml	CHF 3.66
✖ ATP Injeel (1ml) (CHF 3.57)	1	ml	CHF 3.57
✖ Acidum citricum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00
✖ Acidum cis-aconiticum (1.2ml) (CHF 5.00)	1	amp	CHF 5.00

3rd infusion

Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ Milchsäure Pflüger (5ml) (CHF 3.66)	5	ml	CHF 3.66
✖ ATP Injeel (1ml) (CHF 3.57)	1	ml	CHF 3.57
✖ Baryum oxalsuccinicum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00
✖ Acid alpha ketoglutaricum (1.2ml) (CHF 5.00)	1	amp	CHF 5.00

4th infusion

Medikament hinzufügen...	✖ NaCl 0.9% 100ml (CHF 3.31)		
✖ Milchsäure Pflüger (5ml) (CHF 3.66)	5	ml	CHF 3.66
✖ ATP Injeel (1ml) (CHF 3.57)	1	ml	CHF 3.57
✖ Acidum succinicum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00
✖ Acidum fumaricum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00
✖ Acidum DL malicum Injeel (1.2ml) (CHF 5.00)	1	amp	CHF 5.00

ALPSTEINCLINIC

Alpstein up-building infusion

- **Short description:**
  - Infusion for regeneration and rehabilitation (in case of weakness, Exhaustion, after operations, chemo etc)
- **contains**:
  - vitamin C (7,5 g), B vitamins, folic acid
  - minerals and trace elements
  - homeopathic and homotoxicologic remedies
  - **USA**: use HEVERT *hepar comp, lymphaden comp.*
- **effect**:
  - stimulation of lymph system, strengthening of up-building forces
- **application**:
  - 1 – 2 x weekly; all together 5-10 Infusions,
- **Combination**
  - useful with Ozone, Oxyven and after cholincitrate

Medikament hinzufügen...	✖ NaCl 0.9% 500ml (CHF 7.95)		
✖ Vitamin C Pascoe 7.5g (50ml) (CHF 20.00)	1	vial	CHF 20.00
✖ Folsäure Injektopas (1ml) (CHF 1.07)	1	ml	CHF 1.07
✖ Ubichinon comp (2.2ml) (CHF 1.96)	1	ml	CHF 1.96
✖ Thyreoidea suis comp. (2ml) (CHF 5.39)	1	amp	CHF 5.39
✖ Gland. supraren. suis (1.1ml) (CHF 5.53)	1	ml	CHF 5.53
✖ Hypophysis suis Injeel (1.1ml) (CHF 3.68)	1	ml	CHF 3.68
✖ Zinkokehl Sanum (2ml) (CHF 1.95)	1	ml	CHF 1.95
✖ Myosotis comp. Heel (2.2ml) (CHF 2.25)	1	ml	CHF 2.25
✖ Ovarium comp Heel (2.2ml) (CHF 5.39)	1	ml	CHF 5.39
✖ Testis comp. Heel (2.2ml) (CHF 5.69)	1	ml	CHF 5.69
✖ Coenzyme comp. Heel (2.2ml) (CHF 3.59)	1	ml	CHF 3.59
✖ Sanuvis Sanum (2ml) (CHF 2.54)	1	ml	CHF 2.54
✖ Magnesiocard (10ml) (CHF 2.52)	1	ml	CHF 2.52
Osmolarität	Volumen	563 ml	
	Molarität	239.03 mmol	
	Osmolarität	**424.56 mM**	
	Preis	CHF 69.51	

Alpstein Tumor infusion

- **Short description:**
  - Infusion for antioxidation and immunomod-ulation in the context of integrative oncology and in combination with tumor-destructive methods
- **Indication**:
  - As part of the targeted treatment of immunodeficiency and tumor disease
  - Proven antioxidant deficiency
  - Weakness of antioxidant enzymes in genotyping laboratory analytics
  - Accompanying in the context of local and whole body hyperthermia (Iratherm, Indiba) and active fever therapy
  - Complementary with ongoing chemotherapy (minimum 1 day interval)

Application:

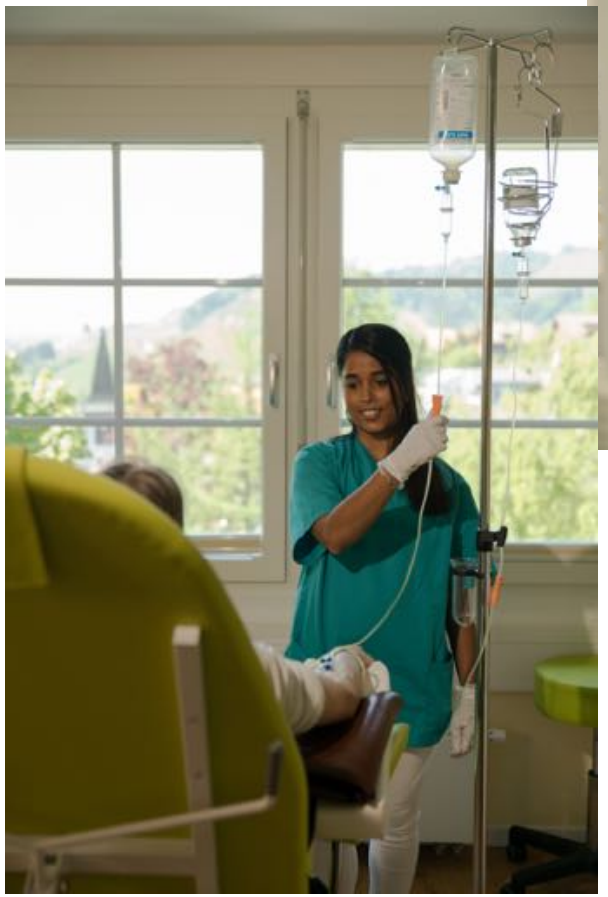
1 – 2 x weekly; all together 5-10 Infusions,

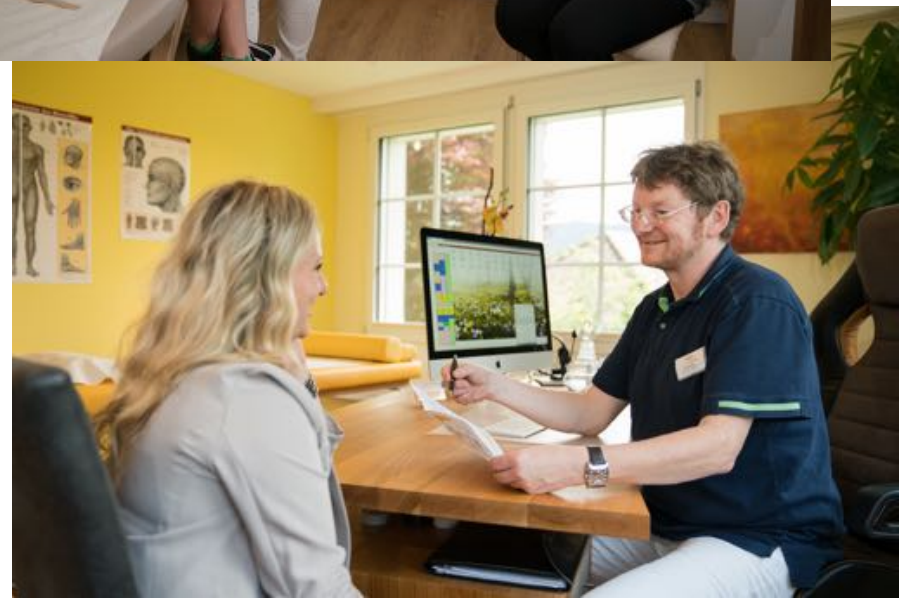
Combination

useful with Ozone, Hyperthermia, Curcuma Infusion

ALPSTEINCLINIC

Biological Medicine and Dentistry with Passion





ALPSTEINCLINIC

The Team of Alpstein Clinic

Many Thanks for your Attention!