



Migraine: What Can be Done?

Therapeutic and Prophylactic Options

by Peter von Buengner



In „Pschyrembel“, migraine is described as a paroxysmal headache that occurs repeatedly and usually on one side only, beginning primarily in the early morning hours and lasting hours to days. Those plus the frequent accompanying symptoms such as nausea, light and sound hypersensitivity, as well as visual field disturbances and neurological function loss are the symptoms, which characterize the clinical picture of migraine.

As to the causes, „Pschyrembel“ suggests vasoconstriction („probably“), psychic stress, climatic influences, tobacco, alcohol, etc. and medications. The concept of „idiopathic“ (meaning of unknown origin) peers out here between the lines, and so it is worth looking into whether a naturopathic viewpoint might not yield some causal connections.

Vasoconstriction or Vasodilatation?

Vasoconstriction is vascular contraction, vasodilatation expansion. Usually, it is the former that is associated with the onset of migraine. During vasoconstriction, the narrower vascular lumen (vessel diameter) yields pressure and congestion symptoms that lead to circulatory disorders.

How best to imagine the effect of vasoconstriction? Picture a garden hose being used to spray by partially blocking the nozzle with a thumb; the pressure rises, making the water shoot out farther. Vascular pressure likewise builds up in the head when the vessels are constricted by their musculature. But since, unlike a garden hose, the

walls of arteries and veins are fluid permeable, water can seep out into the surrounding tissue. The equilibrium that is normally maintained by osmotic and orthostatic pressure is then upset.

Anywhere else in the body, we would diagnose this increased water deposition as edematous tissue or edema, discernible, for example, by the fact that shoes no longer fit, if these water deposits occur in the foot. But migraines occur in the head, and this means that the fluid deposits cannot cause the tissues to swell at will, since the skull can only accommodate this to a minute degree. The logical consequence is a rise in the internal pressure in the head, which beyond a certain level will naturally trigger severe pain, since the tissues are being literally pressed together. This is why migraine sufferers experience relief when they press on their head from the sides with their hands in a viselike action. The external pressure then subjectively eliminates the pressure against the interior surface of the skull for a moment. Nevertheless, pressure alone does not explain the headache, because in that case all migraine patients would have to feel the symptoms evenly on both sides of the head.

The Unilateral Nature of Migraine

We now know that the nervous system services the left and right sides of the body separately; this applies of course to the autonomous nervous system as well, and thus, it is possible that only one branch the left or the right has a pathologically altered tonus. While

the elevated internal pressure in the head lowers the overall threshold for a migraine attack, the affected side is further aggravated by circulatory disorders. After all, the blood has to flow into and through a „closed container“, the head, which is under pressure, whose vessels are constricted by the tonus and which are additionally compressed by the surrounding tissue.

This leads to an undersupply particularly of oxygen, which can then intensify the pain even more. We know of similar situations from other parts of the body, for example in cases of Raynaud’s Disease, which causes severe pain in the hands, and which is also traceable to a vegetatively disturbed tonus of the vascular musculature. The oxygen deficit causes the pains in this case as well. Further examples include attacks of Angina pectoris, Claudicatio intermittens (the so called „display window disease“), embolisms, etc.

Depending on which region of the head is affected, the symptoms disappear. If the pressure and/or the circulatory disturbances reach the eyes, the optic nerve or the visual center, it leads to loss of visual functionality. If the cerebellum is affected, the autonomic system is derailed and generates nausea and vomiting. The patient becomes susceptible even to weak optical or acoustic stimuli and retreats into a dark room.

Practical experience has shown that it is by no means irrelevant which side is affected by unilateral migraine. If the pain runs through or over the eyes, then the following



diagnoses are possible:

- both eyes @ kidneys
- left eye @ stomach/pancreas
- right eye @ liver/gallbladder

Vasodilatation also has to do with circulatory disturbances. Besides, fluid escapes into the tissues as well, only the mechanism is different in this case. Imagine a river flowing swiftly down into a valley: the speed of its flow exerts a suction effect on the groundwater in the surrounding region, and thus drains the area of water. But if the water velocity diminishes and the river now only flows sluggishly, then, instead of sucking up ground-water it will actually give up water to the surrounding region. This same effect turns up in the interplay of blood and lymphatic circulation: if the blood is flowing briskly through the vessels, it drains the lymph; if it flows more slowly or even congests, it gives up fluid to the lymph.

The circulatory disturbances arise, unlike those due to vasoconstriction, because the blood pressure in the slack and distended vessels outright evaporates. This in turn adds up to disturbed lymph flow and the simple fact that distended blood vessels naturally take up more space than constricted ones. This is a possible explanation for why vasodilatation also increases the internal pressure in the skull and, along with oxygen deficiency, creates favorable conditions for a migraine attack.

When is it Vasoconstriction, when Vasodilatation?

From the medical standpoint, vasoconstriction is a sympathicotonic and vasodilatation a vagotonic

process. Unfortunately, this not always easy to clarify from the patient history: in the case of so called weekend migraines, one is usually dealing with sympathetically over regulated patients who, during the week, experience no migraine with this tonus and, on the weekend, when the stress eases up, become so strongly parasympathetic that the migraine breaks out. For these patients, everything would seem to point to vasoconstriction, but the opposite is the case. By the way, we are familiar with these counter regulatory cases from other situations: in auto accidents, the drivers initially fall into a strongly sympathicotonic state, only, after the strain lets up, to swing over into an equally strong parasympathetic state. And it's only then that symptoms appear such as trembling, nausea, vomiting, low blood pressure, etc.

Iris diagnosis can tell us more in these cases; here we possibly see, during the migraine attack, miosis (= parasympathetic = vasodilatation) or mydriasis (= sympathetic = vasoconstriction). But even this doesn't help much if the patient comes to the clinic during a migraine free interval. And yet, there is a very simple way to find out which type the patient belongs to. Vasoconstriction is induced by low temperature and vasodilatation by high temperature. A patient suffering from vasodilatation-induced migraine will consequently avoid hot drinks instinctively (because of course they would make the headaches worse) and instead prefer cold drinks or ice cream. The only exception to this is coffee, which likewise induces vasocon-

striction through adrenaline release. The same is true, in reverse, for a patient with a constriction induced migraine.

Therapy that fails to take the type of migraine into account could for example wind up erroneously prescribing a sedative for a patient with a dilatation migraine and thus, make his symptoms worse by further amplifying his already parasympathetically over regulated tonus, while a sympathicotonic patient would possibly have been helped thereby.

Migraine in the Darkfield Microscope

The narrowing of vessels through vasoconstriction is not the only cause of congestion symptoms in migraine. Besides traumas, tumors, inflammations and arteriosclerotic processes which will not be gone into any further here, the flow characteristics of the blood itself of course also play an important role. In the darkfield, when certain phenomena occur, one can make definite statements concerning blood viscosity (flow characteristic); if filits are visible, rouleaus, clumping and up to the „roof tile“ phenomenon and/or symplasts, one can then assume that here exists a further possibility for taking therapeutic measures that would have a favorable effect on migraine therapy itself.

As with most other diseases, the organism needs more than one cause to be able to generate a certain symptom. seldom will a patient have migraine, for example, just because of vasoconstriction. Other factors always come into the



picture, which then generate the fall disease picture and determine how frequent and how severe the attacks will be, and how long they will last. Besides vascular tonus, poor blood viscosity is definitely one of the more important causes for the appearance of migraine. Professor Enderlein's diagnosis and therapy place effective tools at our disposal with which to help the patient.

The „Pill“ and Migraine

Estrogens increase coagulability by activating fibrin and prothrombin, while at the same time reducing fibrinolysis. This results in a higher risk of thrombosis when taking the Pill or other estrogen preparations. In the darkfield, the increased thrombosis risk is easily recognized by the appearance of roulades and clumping, often accompanied by pronounced filit formation. This persistent negative influence on the rheological relationships is the main factor for the estrogenic genesis of migraine. But there are also a couple of other factors that can reinforce this effect even more:

Estrogens have a sympatholytic effect and thus further promote vasodilation. The sympathetic nervous system elevates muscle tonus which then constricts the vessels, while its counterpart, the parasympathetic system, dilates the vessels. Now, if estrogens have a sympatholytic effect, i.e. inhibit the sympathetic system, then the antagonist, the parasympathetic system, gains the upper hand. The result is then expanded, vasodilated blood vessels, which then, as described above, can trigger a migraine attack.

The fact that mostly women suffer from migraine (ten times as often as men), and that, physiologically, women also have a much higher estrogen level - males produce 20 to 30µg, women up to 300µg per day - shows that this might contain the basis of an answer to the question as to why women suffer from migraines so much more frequently than men.

It is therefore important, with female migraine patients, to advise against any further administration of estrogen preparations. Female patients, who cannot imagine life without the Pill can best be convinced by setting a time limit, say three months, for the discontinuation. Often, the symptoms only abate through measures such as this; if the symptoms then reappear when taking the Pill is resumed, this makes it clear to the patient that the pills do not agree with her. Patients who have suffered from migraines for many years and who only after a long time become aware that the Pill causes their migraines are by no means rare in our practice!

Speaking of hormones: with female patients, the migraine attacks often appear in conjunction with the menstrual cycle. As we have seen above, migraine arises due to increased internal pressure in the skull, which can also be traced back to water deposition in the tissues. Since, in many female patients, Mastodynia (swollen and painful breasts before the period) occurs immediately before the menses begin, it is conceivable that the same causal principle promotes edematous swelling of tissue in the head. The cause of this water

deposition is that estrogens also interfere with saline and water equilibrium: they do this by retention of NaCl (salt) at the kidneys and in connective tissue, which by increasing osmotic pressure in turn leads to increased water deposition and thus edema formation. And this mechanism is surely yet another reason for the higher frequency of migraine among women.

Not even dietary readjustment and successful administration of the proper therapeutics can make the blood count of a patient who takes the Pill be like that of one who does not take estrogens. Estrogens, by the way, also depress the pH (hyperacidity) of the vaginal mucous membrane, which then often leads to mycoses in this area. Since the pathological upward development of *Mucor racemosus* also proceeds in step with falling pH, this presents an additional causal mechanism.

Migraine and Diet

The therapist who does not use the darkfield microscope in his or her practice should scrupulously make sure to include the patient's dietary habits in the patient history. High sugar and protein intake is guaranteed to make the blood's viscosity (flow characteristic) worse; if this is the case, or if the darkfield has indicated pathological upward development of *Mucor racemosus*, then dietary modification such as the mushroom diet is necessary, as alkaline as possible and consisting up to 30% of fruits and raw vegetables.

Also important is symbiotic regulation in the intestinal tract. If it

has a *Candida* infestation and pathological bacterial flora, then anaerobic conditions predominate in the digestive system, and the resulting fermentation process forms fusel alcohols and ammonia. Both can freely pass through the blood-brain barrier, and are well known to trigger headaches. Fusel alcohol in turn puts a strain on the liver and gallbladder. Anyone familiar with the course of the gall meridian knows that migraine headaches often lie exactly in the region of this meridian. It is also striking in this context that women as with migraine suffer much more often than men from bile duct ailments. Is there a connection here? By the way, the fact that fusel alcohol can blind one also indicates the connection between the liver and the eyes. But ammonia and fusel alcohol are not produced solely from intestinal dysbiosis; physiological intestinal flora also elevate the risk of formation of these substances if fruits or raw vegetables are eaten after 2 p.m.. Migraine patients especially should only eat these foods steamed after this time of day!

The Main Migraine Trigger

Migraine often passes as disguised dietary allergy. Statistical surveys have revealed five foods to be primary triggers of migraine like headaches:

- Coffee
- Chocolate
- Wine
- Bananas
- Asparagus

These foods should absolutely be avoided during treatment. Consumption of chocolates and sweets

is quite common among migraine sufferers. That is how they „compensate“ themselves for the pain suffered, thus unwittingly laying the ground-work for the next attack. In therapy resistant cases, for example milk, grains, eggs, etc. can be taken out of the diet in rotation. It practically goes without saying that nicotine also imperils therapeutic success, not least of all because of its vasoconstrictive effect. Alcohol should generally be avoided, as should black tea, since theine is practically identical to caffeine.

Constipation is an above average occurrence among migraine patients; symbiosis regulation and dietary modification alone will often not accomplish much, because here, too, vegetative dysregulation - in this case not of the vessels but rather the transverse intestinal musculature can be present. Since, as mentioned above, these patients often exhibit bile duct ailments, the constipated fecal column can also be caused by purely mechanical factors, i.e. for lack of lubricating gallbladder secretions. If bowel movements cannot be normalized without laxatives (!) which is unfortunately often the case in clinical practice, then therapizing migraine is much more difficult.

Other Stresses as Migraine Factors

Besides the causes discussed so far and psychic stresses (which will be dealt with later), there is another set of disturbance factors that can favor the onset of migraine:

- Dental foci, root canal work;
- Chronic tonsillitis, otitis, sinusitis
- Amalgam fillings, oral currents

(!) via battery effect with gold + amalgam, inexpert amalgam removal;

- Defective jaw position;
- Cervical spinal column syndrome, tension in the neck and shoulder region, spinal column ailments;
- Geopathic stresses;
- Electrical devices, lamps, clock radio near the head;
- Workplace: computer monitor, electrical wiring;
- Medications.

Something could be said concerning every single one of these points, and each one can be involved with migraine occurrences. Tensions in the neck region are especially important here: the primary supply artery for the head, the Carotis interna, runs between neck muscles which, if tense and hard, can throttle the blood supply at this point. These tensions have a high psychosomatic component. Further possible causes include poor sitting posture promoted by an ergonomically bad chair at work; pathogens which, in infection cases, can cause the nerve tonus of the neck and back musculature to rise dramatically, up to and including head retraction (Opisthotonos) as for example botulism (*Clostridium botulinum*).

Of course, from the orthodox medical point of view, a patient becomes sick with botulism only when a certain level has been exceeded. The ubiquitous *Clostridium botulinum* is present in small numbers in all canned food, and so it can happen that, in older or less hygienically processed cans, just enough botulism toxin is present:



not enough to trigger an acute outbreak, but enough to administer a homeopathic dose of this toxin's information. The result is then not the fall disease picture with head retraction, but in fact „merely“ a stiff neck! These considerations are also part of the disease picture for migraine, and there must certainly be others that, despite this article's efforts at comprehensiveness, have not been mentioned.

Migraine Therapy

Depending on the individual practitioner's emphasis, therapy can include dietary modification, symbiosis regulation, manual treatment, soft laser treatment, magnetic field therapy, acupuncture, medicinal treatment and psychotherapy. Dietary modification is oriented to a high alkaline diet and restriction of acid forming foods and the migraine triggers mentioned previously. The following are recommended for symbiosis regulation:

- Ozovit,
- Hylak forte N,
- Kanne Brottrunk,
- ALBICANSAN 5X drops,
- SANKOMBI 5X drops.

Ozovit (Pascoe special preparation) releases oxygen in the intestinal tract and thereby interrupts the anaerobic metabolic process that is in turn the precondition for the fermentation, which produces fusel alcohol and ammonia. This has a diversion effect, which can manifest itself in the form of mushy stool or even diarrhea. Hylak forte N strengthens the physiological intestinal flora with dextrorotary lactic acid bacteria, which can then regenerate, thereby in most cases obviating the need for administra-

tion of any more intestinal symbionts. As therapy continues, Hylak forte N is not repeated, but instead replaced by the Kanne Brottrunk (1/2 to 1 bottle per day). This also contains dextrorotary lactic acid bacteria and should initially be taken with copious amounts of water, to allow the patient to get accustomed to the somewhat acid taste. Another advantage of the Brottrunk is that it increases the patient's fluid intake. Dehydration can also trigger migraine attacks, since this also reduces viscosity!

ALBICANSAN and SANKOMBI, the proven fungal preparations from SANUM-Kehlbeck, are used against *Candida albicans*, *Mucor racemosus* and *Aspergillus niger*. As treatment is continued, FORTAKEHL, QUENTAKEHL and NOTAKEHL can also be introduced, if needed, for symbiosis regulation and fungal treatment. In the context of tuberculoid treatment, POLYSAN „T“ also includes migraine in its diagnostic picture. It has proven a good idea in practice to perform the agglutination test and then to therapize the stress if the reaction is positive (clumping). Tuberculosis is a miasma in the Hahnemann sense. It represents a

therapeutic blockage that above all calls into question the effectiveness of homeopathic agents if not adequately treated.

The following preparations are recommended for deacidification and improved oxygen supply:

- CITROKEHL
- SANUVIS
- Oyo
- Cozyme compositum,
- Ubichinon compositum.

Using homeopathy requires a precise repertory of the patient's symptoms. Besides constitutional type, the modalities above all play a role in determining the simile. When the migraine occurs, how often, with or without nausea, with vomiting, more in the morning or the evening, etc. Creating a repertory for a homeopathic situational remedy, without taking the constitution into account, encompasses a great number of homeopathic agents. One remedy which is often forgotten about in this context, but which is particularly effective against migraine, is ergot (*Secale cornutum*).

Ergot is a member of the Ascomycetes family. It appears in grain fields and visually resembles

Active agent	á-sympatholysis = vasodilatation	vasoconstriction	uterine contraction
Dihydro- ergotamine	+++	+	(+)
Ergotamine	+	+++	+
Ergometrine (Ergobasin)	-	+	+++

Ergot alkaloids



a dark rye kernel (Latin *Secale* = rye; *cornutum* = horned). Before the use of herbicides and fungicides, it was wide-spread and present in healthy grain fields at a level of approximately 0.1%. *Secale cornutum* contains alkaloids that are used, in the form of ergotamines and other derivatives, by orthodox medicine in combating migraines and vascular diseases. The individual elements have both vasoconstrictive and vasodilatory components.

As one can see, *Secale cornutum* has active ingredients for both constricted and distended vessels. At the 1X to 3X potentiations (Note: by prescription only!), the alkaloids tone the smooth vascular musculature and the uterus, and thus work against dilatation. To break up cramps in vasoconstriction cases, potentiations between 4X and 12X are indicated (also see Mezger: Vol. II, p. 1295, Haug Verlag). This explains the effectiveness of *Secale* for all paroxysmal processes that can lead to circulatory disturbances and up to gangrene. These include Raynaud's Disease, waxy fingers (*Digitus mortuus*), tinnitus, Meniere's Disease and neuralgia. Potentiations above 12X effect at a higher level a vegetative restoration of physiological vascular tonus, regardless of whether constriction or dilatation was previously present.

Another component of *Secale* is lysergic acid. Lysergic acid diethylamide is the full name of the hallucinogen known as LSD. Lysergic acid is a component of all alkaloids in *Secale cornutum* and does not have the pharma-

cological effects of LSD, at least not according to orthodox medicine. From the homeopathic view-point, it is at least conceivable that lysergic acid also has a certain hallucinogenic effect and can thus intervene in the autonomous nervous system.

Tyramine, Choline, Acetylcholine

Tyramine is a breakdown product of tyrosine (!), which is in turn a precursor in the formation of melanin, dopamine, L dopa, adrenaline, noradrenaline and thyroxin. The stress hormones of the adrenal cortex are stimulated via the hormones of the adrenal medulla in conjunction with thyroxin (thyroid gland: T3, T4). Here, too: cortisol + adrenaline = increased vasoconstriction. Acetylcholine then also gives access to the adrenergic receptors.

The Role of Histamine

Here, possibly, lies the connection to strong pyrogenic inner heat and *Secale*'s healing effect for allergies, in inflammations, ulcerative processes and gangrene. Because of all its active components, *Secale* is one of the main remedies for migraine, whether dealing with hyperregulation of the sympathetic or parasympathetic system, dilatation or constriction. Orthodox medicine has long been making use of derivatives such as ergotamine, although with at times considerable side effects and with the risk of dependency (ergotism). With homeopathy, one has the opportunity of using this (as well as the many other „poisons“) to the patient's benefit and without side effects!

Hurray for Progress!

Migraine is on the upswing. In addition to the named factors such as diet, estrogen intake, hyperacidity and pathological upward development of *Mucor racemosus*, the structural conditions of our competitive society undoubtedly play an important role. Above all, migraine is a psychosomatic disease that has its root causes not least in ever increasing stress.

And yet... in earlier times, ergot was already growing in the grain fields. In earlier times, migraine was less frequent. Aside from the fact that former times were perhaps less stressful: isn't it possible that there was less migraine because the remedy, the ergot alkaloid, was contained in each loaf of bread that people ate? Isn't it possible that here was a symbiosis between man and fungus (ergot), and that this symbiosis came to an abrupt end with the introduction of fungicides?

The damage caused by the chemical industry and fungicides then became in turn a lucrative field of activity for the pharmaceutical industry. Research was done to find a suitable remedy for migraine and Eureka! Praise be to those clever scientists! it was indeed found, namely in the alkaloids of ergot (ergotamine etc.)! What a lucky accident!

Then they immediately began artificially breeding the previously conquered ergot and extracting with great effort its active ingredients and stuffing them into sugarcoated tablets. But as is so



often the case, the manmade product doesn't measure up to the natural one, and so the list of possible side effects for such preparations tends to remind one more of the script of a horror movie than the blurb for a medicinal remedy! This is a good reminder that we can't do things to nature without having them somehow rebound back at us. As Paracelsus once said in this context: „your food should be your medicine.“ It is in this sense that we - and especially migraine sufferers - should return to eating bread made from organically grown grains, which supplies ergot and its active ingredients in a very natural manner.

The Psychosomatic Aspect of Migraine

I would first like to use a parable to better illuminate the psychosomatic aspect, often distasteful to patients, of migraine: many years ago, people believed that thunder and lightning were hurled at the earth from the heavens by God himself. In the archetypal image, the Lord sat on a cloud holding the next lightning bolt in his upraised right hand, ready to be thrown. However, as scientific knowledge progressed, we learned that lightning is the result of hot and cold air masses colliding with each other and, moreover, that the discharge is from the ground upward, not from the heavens downward. From that point on, thunder and lightning were stripped of their divine aspect, become mere physical science phenomena. Except that, because the new reality did not correspond to the archetypal image of times past that man in his naive ignorance

had conceived, we now denied God the ability to hurl lightning bolts.

But what if God also knows that he simply has to allow hot and cold air masses to collide if he wants to make lightning? What if God really does sit in a cloud and, symbolic bolt in hand, can command the air masses to move about in precisely such a manner as to cause the lightning to strike wherever he wishes? Is it not possible to exaggerate somewhat that God possessed this knowledge even before modern science found out about it?

The moral of this tale is that we should not fall into the trap of excluding the possibility of a „higher authority“ just because we have rudimentary explanations for material/physical phenomena. This article has provided sufficient grounds for seeing migraine as a purely somatic, i.e. physical, disease. If it's coffee that triggers a migraine attack, or constipation or poor sitting posture, what's the point then of looking for a psychic component? Anyone who takes this attitude is forgetting that the mind also knows about the effects of coffee, of constipation and poor sitting posture. Ultimately, it is the mind that, almost exclusively, can influence these and of course all the other causal factors of migraine. The mind also knows what it must supply or withhold from the body to trigger a migraine attack; in fact, it even has direct access to vascular tonus, so that indirect methods are not necessary.

Understandably, patients do not appreciate being confronted with

these components. They would rather have headaches than deal with the underlying problems. Migraine is a repression mechanism for that which one „cannot bear to think about“. Patients seeking solace and healing naturally don't want to hear that they are ultimately generating the headaches themselves. It's not enough that my head hurts so much; now this doctor comes along and says it's my own fault! It takes a good deal of tact and understanding to make patients aware of these circumstances. Experience has shown that there are three questions which can reliably yet gently bring the patients around to an insight into the situation. All three questions relate to advantages of the disease:

1. What don't I have to do when I have migraine? This elicits answers such as „I don't have to go to work“ or do housework or think about something in particular.
2. What do I allow myself only when I have migraine? „I can lay down by myself“; „I don't let anyone bother me“; „I eat chocolate“.
3. What do I get only when I have migraine? „My family is more considerate of me“; „My husband takes care of the children“; „Attention and strokes“.

The therapist writes down the answers and at the end reads them back to the patient several times if necessary. Usually, patients will themselves see their mental migraine pattern. The next step is to think about how to go about getting that which is desired, as indicated by the precise answers to the three



questions, without resorting to a migraine attack. If the patient is overstressed and has to create the occasion for a break with a migraine attack, then maybe the breaks can be created „voluntarily“ and they will certainly be enjoyed more than breaks plus migraine. When spousal attention and caring is the dominant motive, then this must indeed be made a focus of the therapy...

From the standpoint of the basic psychological pattern, migraine patients very often demand quite a lot of themselves, are under a lot of (usually self made) pressure and can often be exaggeratedly career driven or control freaks. As with bile duct diseases, sexuality enters into it as well. It would go beyond the bounds of this article to illuminate this aspect, but I would like to recommend the book *Krankheit*

als Weg [Illness as Method] by Dethlefsen & Dahlke.

First published in the German language in the SANUM-Post magazine (42/1998)

© Copyright 1998 by Semmelweis-Institut GmbH, 27318 Hoya (Weser), Germany

All Rights Reserved