The remedy SANUKEHL SERRA

Its working principle Serratia marcescens

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Different types of Serratia are a natural phenomenon in water, soils and foodstuffs. Serratia marcescens occurs as a result of the formation of a deep red dye, prodigiosin. This bacterium was earlier known as „Chromobacterium prodigiosum“ or even „Host *[communion wafer]* fungus“ and is an enterobacterium.

These types of human microflora can lead to serious endogenous diseases; therefore they are described as being facultatively pathogenic or known as opportunistic pathogens. It is possible for a disease to be the outcome only where there are certain pre-conditions specific to the patient. Favourable factors include:

- myelosuppression caused by x-rays or cytostatic therapy,
- suppression of the activation of thymus lymphocytes caused by corticosteroids,
- immune deficiency syndrome,
- frequent use of broad spectrum antibiotics (selection of the enterobacteria as a result of lack of natural antagonism by the anaerobic intestinal flora).

Endogenous infectious diseases do not have a typical incubation period or tendency to spread and it is possible to miss becoming immune to them. Opportunistic pathogens are frequently involved in the following diseases:

- enteritis,
- urinary tract infections,
- wound infections following
- surgery,
- peritonitis,
- cholecystitis,
- pneumonia,
- meningitis,
- sepsis.

Serratia marcascens is an opportunistic pathogen typically seen in hospitalised patients. Over the past three decades it has been diagnosed with increasing frequency as the pathogen responsible for nosocomial infections (i.e. infections acquired in hospital) and has been isolated particularly in bladder, respiratory tract and wound infections as well as in cases of sepsis. A particular cause of sepsis is contaminated infusion solutions, whilst diseases of the urinary tract and lungs occur when patients are catheterised. The problem with the classic treatment using antibiotics is that there is a high level of natural resistance to the penicillins, cephalosporins and polymyxin B caused by plasmid-coded multiple resistance which can be transferred to the different species of enterobacteria.

Polyribosomes were isolated from Serratia marcescens, tested by means of intradermal injections on fibrosarcomas in mice and compared with remedies derived from Escherichia coli, BCG, Propionibacterium acnes, Mycobacterium smegmatis and Streptococcus pneumoniae. This showed that the remedy derived from Serratia marcescens had a superior effect with regard to suppression of tumours. In this connection, activation of the macrophages by the use of Interferon was discussed.

Above all, the macromolecules which were obtained by extraction from the lipopolysaccharide layer of the cell wall showed in vitro

- a strong activation response in the polyclonal B-cells (mitogenic activity)
- induction of synthesis of the tumour necrosis factor.

For more on the use of a preparation from Serratia marcescens in the treatment of cancer see the article *„Coley's Toxin in the treatment of cancer“* in one of the coming editions of SANUM-Post.

In Holland a hapten preparation has been registered in the form of the remedy SANUKEHL SERRA for internal and external use as well as in a 5X injection form for intramuscular and subcutaneous use.

Treating cancer with „Coley's toxin“

„Coley's toxin“ is one of the most interesting bacterial remedies used in oncological therapy. The American surgeon William B. Coley developed this remedy because of an observation that he made in 1891 in the case of a patient with inoperable sarcoma. Following his fifth operation for cancer the patient developed a severe erysipelas infection on the face and neck. Within a few days the tumour began to soften and its diameter began to shrink. The patient left the hospital without showing any signs of having a tumour and eleven years later was in the best of health without any sign of a relapse. Following this Dr. Coley began to inoculate his patients' tumours with an artificial cultivation of streptococci which had been isolated from erysipelas. Not all patients went on to develop

erysipelas, however, all of them presented with a reversal in the size of the tumour and an accompanying high fever. But the risk of this form of treatment was considerable. Some patients died from the toxic effect of the increasing numbers of microbes.

Around 1895 Dr. Martha Tracy discovered that sarcomas in dogs could be made to disappear by injection of a „Bacillus prodigiosus" toxin. Dr. Coley then brought together the working principles of Streptococcus pyogenes (from erysipelas) and Serratia marcescans (the modern name for Bacillus prodigiosus) in his mixed bacterial vaccine (MBV). He standardised the bacterial remedies to safe concentrations of the proportions of the bacteria and from then on only used the heat-sterilised form of the remedy. In 1909 he published case reports on 36 sarcoma patients who had experienced complete or partial remission through treatment with Coley's toxin.

Interestingly, the first observations that malignant diseases can be improved or cured during or following a bacterial infection go back over 200 years. The first recorded findings date from DUPRE DE LISLE (1774), and there are extensive reports by TANCHOU (1844). In Germany the results of the oncological effects of erysipelas diseases were published by BUSCH from Cologne (1886) and BRUNS from Bonn (1887).

Helen Coley-Nauts, the daughter of William Coley, carried out some extraordinarily comprehensive research in order to document the positive effects of bacterial infections on the course of cancer illnesses from medical literature in general as well as the results of treatment with Coley's mixed bacterial vaccine in particular. Her research led her to over 1000 quotations in literature dating from 1775 to 1980. The spontaneous remissions most frequently reported occurred after streptococcal infections, those which were next most frequent after pyesis and/or abcesses caused by staphylococci (NAUTS, 1980).

Of 449 inoperable patients with mostly pyogenic infections, 125 survived long-term (from 5 to 54 years). This corresponds with tests that prove that TB patients are less susceptible to cancer. The same applies to new cases of malaria. There are reports of cancer cures as a result of vaccination against syphilis. Vaccination of patients with acute leukaemia with Pseudomonas led to them remaining in remission longer during chemotherapy.

An analysis of just under 900 patients who were treated with Coley's mixed bacterial vaccine (MBV) gave the following results (NAUTS, 1978); see table:

- Of 896 patients, 46 per cent of inoperable cases survived for five years or more;
- the same applies to 51 per cent of operable cases;
- of 126 patients with osteogenic sarcomas, 85 per cent survived for between 4 and 60 years after the operation, compared to 10 to 15 per cent after a single operation.

When mixed bacterial vaccine was prescribed, the most dramatic regressions of tumours were in patients where acute feverish reactions were recorded, in treatment lasting at least four months. None of the persons offering the MBV treatment during Coley's lifetime knew anything about the physiological effects of bacterial vaccines:

- stimulation of the reticuloendothelial system;
- activation of the macrophages;
- strengthening of haematopoiesis;
- an increase in the production of prostacyclin, interferon and endorphins.

Nowadays the far-reaching effects of these individual effects are well known and they explain the regression of large tumours, the metastatic prophylaxis, the pain relieving effect, the improvement in the blood count, appetite and weight and the regeneration of bones in the patients treated.

Moreover, in cases of fever which is artificially created by injection of bacterial endotoxin, it can be proved that the stimulation of the immune response is accompanied by raised levels of the following allomones which can be regarded as useful in resistance against tumours: interleukin-1 and -2, interferon γ and the tumour necrosis factor.

It is recommended as a matter of urgency that bacterial vaccines should be used before every surgical operation or session of radiation or hyperthermia treatment (NAUTS, 1982).

Probably the most recent test of Coley's MBV took place in a study on the treatment of 15 patients with metastatic malignant melanoma (KÖLMEL et al., 1991). The authors reported three cases of complete remission, some of which lasted for over 26 months, as well as impressive retrogression of larger skin tumours even in the progressive cases. Also mentioned were the minimal side effects of the therapy.

Tests on the cell walls of Staphylococcus aureus showed that one component (protein A), which reacts with the Fc regions of immunoglobulins, can bond with immune complexes in the serum of the patient. This is regarded as important for the removal of blockading factors which can inhibit immune reactions in the plasma (FORSGREN & SJÖQUIST, 1966). This led to a form of treatment of extra-corporeal immune adsorption of patient serums using Staphylococcus aureus protein A (BANSAL et al., 1978; RAY et al., 1979-1982).

At this point there ensues an informal cross-reference to the newly-developed series of SANUKEHL remedies from SANUM-Kehlbeck. In these remedies the bacterial components in particular are concentrated as a result of the choice of manufacturing process and these have, for example, laid the foundations for the effectiveness of the Coley toxin (used in the single remedies SANUKEHL STREP and SANUKEHL SERRA). Furthermore, the investigations of KUNZE et al. (1996) on SANUKEHL PSEU show that the ex vivo immune adsorption technique which was developed with Staphylococcus aureus remedies also functions as it were in vivo in the patient's blood and can offer a reason for SANUKEHL PSEU being able to remove reaction blockades which are very frequently found in, for example, cancer patients.

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Five-year survival rates of 896 patients with various tumour disorders who were treated with Coley's toxin

Type of tumour	Total no. of cases	Five year survival rate			
		inoperable number	(%)	operable number	(%)
Bone tumours					
Ewing's sarcoma	114	11/52	21	18/62	29
osteosarcoma	162	3/23	13	43/139	31
reticular cell sarcoma	72	9/49	18	13/23	57
multiple melanoma	12	4/8	50	2/4	50
giant-cell tumour	57	15/19	79	33/38	87
Connective tissue					
lymphosarcoma	86	42/86	49	---	---
Hodgkin's disease	15	10/15	67	---	---
other sarcomas	188	78/138	57	36/50	73
Gynaecological tumours					
breast cancer	33	13/20	65	13/13	100
ovarian cancer	16	10/15	67	1/1	(100)
carcinoma of the cervix	3	2/3	67	---	---
sarcoma of the uterus	11	8/11	73	---	---
Other tumours					
cancer of the testes	64	14/43*	34	15/21	71
malignant melanoma	31	10/17	60	10/14	71
colorectal cancer	13	5/11	46	2/2	(100)
renal cancer (adult)	8	3/7	43	1/1	(100)
renal cancer (Wilms tumour)	3	---	---	1/3	33
neuroblastoma	9	1/6	17	2/3	67
Total	**896**	**238/523**	**46**	**190/374**	**51**

* including 16 terminal cases