CLINICAL ASPECTS

ANDREWS PUSTULAR BACTERID CAUSED BY SENSITISATION TO HEAVY METALS IN DENTAL WORKS IN A PATIENT WITH SUSPECTED SYSTEMIC LUPUS ERYTHEMATOSUS
CASE PRESENTATION

MIHAELA CERNUŞCĂ-MIŢARIU 1, R. MIHĂILĂ 2, M. MIŢARIU 3, M. MIŢARIU 4

1University of Medicine and Pharmacy “Gr. T. Popa” Iași, 2,3,4University „Lucian Blaga” of Sibiu

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Abstract: Pustular or palmar-plantar Andrews is precipitated by acute infections and is frequently discussed their relationship with psoriasis. Our case report has a clinical monotonous evolution, and healing of lesions occurred only after removal of all dental work containing palladium and mercury, which supports the intervention mechanisms of allergic sensitization to heavy metals in the pathogenesis of the disease.

Cuvinte cheie: pustuloza palmo-plantară acută, evoluție, patogeneză

Rezumat: Pustular bacterid Andrews sau pustuloza palmo-plantară acută este precipitată frecvent de infecții și este discutată relația ei cu psoriazisul. Cažul prezentat a avut o evoluție trencantă, iar vindecarea leziunilor s-a produs numai după îndepărtarea tuturor lucrărilor dentare care conțineau paladui și mercur, fapt care susține intervenția mecanismelor de sensibilizare alergică față de metale grele în patogeneza bolii.

CASE PRESENTATION

This is the case of a 40 year old patient, CG, under observation and ambulatory treatment in February 2007.

For two years prior to his medical appointment, the patient suffered from discrete and transitory arthralgies and swelling of his knee-joints and tibio-tarsals as well as pruriginous exanthematous lesions of the soles and palms; these were treated locally and with corticotherapy, with no improvement as a result.

Further examinations, undertaken between 15.1.2007-30.1.2007 showed the following:

- The lymphocyte transformation test from blood heparinized to metals was positive to palladium (stimulation index 3.9) and to mercury (stimulation index 3.5). Stimulation index of over 3 shows cellular sensitization, as it presupposes the existence of T lymphocytes, specific to an allergen activated in a quantity three times larger than normal. The test showed the existence of cellular sensitisation in a type IV immunological reaction to palladium and to inorganic mercury. No sensitisation to other metals tested was noticed (chromium, cobalt, silver, tin, copper, gold, nickel, cadmium, ethyl-mercury, molybdenum, platinum).

To avoid exposure to palladium, one has to consider gold jewellery, which frequently contains palladium. There is also the possibility of the presence of palladium in materials and jewellery used in piercing.

- Of heavy metals, increased concentrations of mercury (9.7 micrograms/l) against an accepted value of under 2 micrograms/l and silver (14.2 micrograms/l against an accepted value of under 1.5 micrograms/l) were detected in the saliva; all these metals are part of dental fillings (amalgam).

Anti-RNP-U1, anti-SM, anti-SS-A (Ro), anti SS-B (La), anti-Scl-70 and anti PM-1 antibodies were negative. Free T-4, cortisolemia (in serum), ferritin, ACTH and histinemia (plasmatic) were normal. Folic acid had a suboptimal level (3.30mg/ml as against a normal level of over 6,80mg/ml). Vitamin B12 concentration was at the lower end of normal values (21 mg/ml).

The antistreptolysinic titre was normal, as was the level of the rheumatoid factor and TSH. Of immunoglobulins, IgA showed a slight increase (569mg/dl). Allergic sensitisation tests were negative. Total IgE was in titre of 1841.2 Ul/ml.

HLA-B27 antigen was negative.

The electrophoresis of serum proteins was normal, as was proteinemia (7.49g/dl). The profile of antinuclear antibodies revealed the existence in slightly positive titre of double catenary anti-DNA antibodies (55.6 Ul/ml, as against normal values of under 35-55 Ul/ml). Furthermore, it presented a low level of intracythritic magnesium (2.09 mmol/l, against normal values of 2.25-2.80 mmol/l) and an elevated titre of antistaphylocysic antibodies (16 Ul/ml against acceptable values of under 2 Ul/ml). The number of leukocytes, hematocrit and leukocytic tin were normal.

The presence of Helicobacter pylori was detected in the stool. The stool flora showed slightly elevated concentrations of beta-hemolytic streptococci (105 KbE/g, as against a maximum of 104 KbE/g) but still liminal.

The pH of the stool was 7. The intestinal enviromental balance was of 0 points (no deviation from what is considered normal content).

The antibiogram done on the vesicular fluid collected from the calcanean area showed the presence of massive amounts of Staphylococcus aureus, sensitive to erythromycyn, fusidic acid, lincomycin, nicene, cotrimoxazole, ofloxacin, sisomycin, nitrofuratoin, cerfalexin, cefadroxil, cefamandol, gentamycin,
chloramphenicol, doxycyclin and resistant to tetracyclin, amoxylcin, ampiciln, polimixin, kanamycin, clindamycin, sulphate of neomycin, colistin, frameticn, paromomycin.

- Biochemical test detected a slight mixed dislipidemia (triglyceridemia 170 mg/dl, colesterolemia 212 mg/dl).
- Of the tested toxins there was found in the blood an increased concentration of p.p’-DDE (2.64 mg/l as against an accepted value of under 0.01 mg/l).
- The activity of glutation-S-transferase was slightly decreased (it was situated in the grey zone) 67.8% was against a normal value of over 70%.
- Tests of chemoluminiscence showed an increased production of free radicals in whole blood (524,064 / 600 sec. as against normal values of 200,000-350,000 / 600 sec.), but not in plasma. Antioxidative activity was low in plasma (2.6 inhibitory units, as against normal values of 4.6 inhibitory units). The redox potential was low, both in whole blood (-74.7 mV, as against acceptable values of -100 up to -120 mV) and in plasma (54.7 as against acceptable values -80 up to -100mV), a finding that indicated the presence of a strong oxidative stress.

**Disease:** Following the above investigations, the following diagnosis was established:

- Apical dental foci (34,36) Horizontal atrophy. Metallic heterogenity, locally and distantly.

**Treatment**

- **Externally**
  - Cleaning of teguments with pure urea (5%)
  - Application of 5% ichthiol exicains paste on the hands
  - Application of Tretinom 0.02% antihyperkeratosic ointment to the soles. Standard solution for relief from scratching.

- **Internally**
  - Gelovital (1g) 3x2 capsules/day for long term treatment
  - Canoten 1 x 1 capsules, 2 months
  - Mg² Vitamin E 1xl capsules/2 months
  - Substratite of bismuth 0.5 micrograms, 2xl capsules/day for 3 weeks
  - Folic acid 5 mg 2xl tablets/day, 1 month
  - Grunaf (1g) 2xl tablets/day, 10 days
  - Taverrer 1xl tablets/day, as needed
  - Fyi 3x2 tablets/day

**Dental treatment**

- removal of bacterial plaque
- ablation of crown (tooth 3.6) of gaudent
- replacement of amalgam fillings with composite materials (teeth 4.7, 4.5, 1.7, 2.5, 2.7, 3.5, 3.7)
- all prosthetic replacements were done in ceramics, on Titanium support as well as two crown-radicular restaurations in Titanium
- apical resection tooth 3.4, premolarisation tooth 3.6

**Recommended control tests:** doble catenary anti-DNA antibodies, anti DNA ss antibodies two months after discharge. Treatment was adapted according to results obtained and the condition of the skin. Duration of naturopathic treatment was approximately one year.

**Outcome:** clinically it is favourable; patient repeats anti DNA antibodies test two months after being discharged. Result: 289,908 (201-300 weakly positive).

**Discussion:** Andrews Pustular Bacterid or acute

**BIBLIOGRAPHY**