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# Unexpected Good Condition of Teeth in Young Patients Suffering from Rheumatic Fever

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Rheumatic fever (RF) means the complication of an infection caused by beta-hemolytic streptococci of the group A (Lancefield). Usually, the streptococcal infection concerns the pharynx and determines the acute angina, but more seldom it may have other localizations: dental, sinus, otic and so on. The stomatologic control of patients suffering from RF has in view the hunting out and reclamation of dental infections which are sometimes involved in the determination of the disease. The bacterial flora of the dental infection is dominated by the alpha-hemolytic immunologic interferences with the beta-hemolytic streptococci [1–5].

The clinical examination of patients suffering from RF (most of them from our department) pointed to an apparently paradoxical aspect, as most of them had indignified or almost indignified teeth, in comparison with the majority of persons of the same age. The examination covers, of course, only young rheumatics, since the ageing shall inevitably drive a series of factors having negative impact on their teeth (for example pregnancy). The “pearly” teeth of some female patients suffering from RF, seeming to evoke the commercial advertisement for tooth paste, were entitled to suggest the following hypothesis: the absence of dental infections (or their reduced frequency) discloses a certain immunitary “virginity” against the streptococcal antigens. Upon the basis of the immunologic “disarmament” the angina with beta-hemolytic streptococci may have a particular pathologic echo with the person predisposed to it, unleashing more easily the RF and its cardiac complication.

In order to check up this hypothesis, we examined the condition of the teeth of a control group of 105 patients with RF, aged 16–30 years, hospitalized in our department of cardiology, in comparison with a control group, similar in size and structure, matched on sex and age groups.

The control group included aleatorily chosen persons from educational units and diverse working places, excluding the cases with RF in antecedents and the bearers of rheumatic valvulopathies.

The results of the stomatologic examination were synthetically expressed by the aid of the following formula: number of decayed teeth, absent and obturated, related to the number of persons of each control group. The data points to a lower prevalence of the respective dental diseases in the sample group with RF in comparison with the control group (Tab. 1). The statistical differences are highly significant ( $p < 0.01$ ) and more ample for patients aged 16–19 years and the patients with heart murmurs [6, 7].

Therefore, dental infections, in spite of the numerous negative effects on the condition of health, seem to play a part similar to a vaccine, which increases the resistance against being taken ill from RF through the agency of many possible mechanisms:

- antigenic interferences between the alpha- and beta-hemolytic streptococci;
- presence of beta-hemolytic streptococci in the bacterial flora of some dental infections;

**Table 1.** Results of a stomatologic examination of patients suffering from rheumatic fever

|                                  | No. of persons | C <sup>1</sup> | A <sup>2</sup> | O <sup>3</sup> | Total (C+A+O) |
|----------------------------------|----------------|----------------|----------------|----------------|---------------|
| <b>Rheumatic fever</b>           |                |                |                |                |               |
| – Total                          | 105            | 1.9            | 1.1            | 0.8            | 3.8           |
| – 16–19 years                    | 63             | 1.6            | 0.5            | 0.6            | 2.7           |
| – 16–19 years with heart murmurs | 30             | 1.1            | 0.2            | 0.1            | 1.4           |
| – 20–30 years                    | 42             | 2.3            | 2.0            | 1.1            | 5.4           |
| – 20–30 years with heart murmurs | 23             | 2.4            | 1.6            | 0.6            | 4.6           |
| <b>Control group</b>             |                |                |                |                |               |
| – Total                          | 104            | 5.8            | 2.9            | 0.5            | 9.2           |
| – 16–19 years                    | 61             | 5.8            | 2.6            | 0.6            | 9.0           |
| – 20–30 years                    | 43             | 5.8            | 3.2            | 0.4            | 9.4           |

<sup>1</sup>average number of decayed teeth (per person)

<sup>2</sup>average number of absent teeth (per person)

<sup>3</sup>average number of obturated teeth (per person)

- particular anatomical conditions of dental infections which allow a more reduced sanguine absorption of germs and catching toxins, encouraging this way their immunizing effects;
- stimulative role of pain on the immune answer;
- immunologic training of patients predisposed to RF contributing to the alleviation phenomena by increasing the capacity of antigenic discrimination.

The present examination makes up an indirect argument in favour of the accomplishment of an efficient streptococcal vaccine, able to prevent the RF disease, the prophylaxis of which is taxed this present time by the necessity of administering a long cure of benzatin-penicillin G [8].

## References:

1. Bisno AL. Acute rheumatic fever: a present-day perspective. *Medicine* 1993; 72: 278–83.
2. Haggerty M. Streptococcal infections. *Gale Encyclopedia of Medicine* 4/6/01.
3. Streptococcus. *The Columbia Encyclopedia*. 6th ed. Columbia University Press, New York, 2005.
4. Facklam RR. Physiological differentiation of viridans streptococci. *J Clin Microbiol* 1977; 5: 184–201.
5. Teng LJ, Hsueh PR, Tsai JC, Chen PW, Hsu JC, Lai C, Lee CN, Ho SW. groESL sequence determination, phylogenetic analysis and species differentiation for viridans group streptococci. *J Clin Microbiol* 2002; 40: 3172–8.
6. Alam S, Brailsford SR, Adams S, Allison C, Sheehy E, Zoiopoulos L, Kidd EA, Beighton D. Genotypic heterogeneity of *Streptococcus oralis* and distinct aciduric subpopulations in human dental plaque. *Appl Environ Microbiol* 2000; 66: 3330–6.
7. Lupescu G, Lupescu I, Carasel R, Turcila D. La denture des malades ayant un rhumatisme articulaire aigu. *Les Concours Medical* 1993; 8: 603.
8. Rheumatic fever and rheumatic heart disease. Report of a WHO study group. World Health Organization, Geneva, 1988 (Technical Report Series No. 764).

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