CHRONIC URTICARIA AND DENTAL INFECTION

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CHRONIC urticaria often is a most puzzling process of obscure origin, since it may arise from many different causes. It is customary to consider the role of infection, emotions, and also allergy to common substances in the environment, particularly drugs. The relation of active dental infection to chronic urticaria frequently is sought, yet there are few detailed reports of the incidence and importance of such a relationship.[1] We therefore undertook to study chronic urticaria in a group of patients who had been given complete dental examinations, to see how often dental infection occurred, and the effect of eradication of dental infection when present.

Method of Study

Records of 100 patients with chronic urticaria who had been referred to our dental department were reviewed to determine the incidence of dental infection present, and whether or not there was a correlation between appropriate dental treatment and the course of the urticaria.

Criteria. For the purpose of this study, chronic urticaria is defined as persistent or recurring urticaria, with or without angioedema, of more than four weeks' duration. The eruption had been present for many weeks or months in most cases; up to 10 years in several cases, and intermittently from childhood in a few adults. The cause was obscure in all cases. Some patients had been referred to the dental department in the search for foci of infection, and some patients had been referred because of dental symptoms and signs noted at the time of the initial complete examination.

Alveolar abscess is defined as roentgen evidence of bone resorption at the root end of a tooth. Advanced periodontal disease is defined as the loss of the supporting bone structure of the tooth to more than two thirds of the length of the root, or involvement of the bifurcation of multirooted teeth as determined roentgenographically. The extent of dental caries also was noted.

Since most of the patients were referred to the Cleveland Clinic for study, the recommended dental treatment was not carried out here. A few patients who did receive dental surgery were followed, and the course of the urticaria was recorded.

Analysis of Records

Age and sex of patients. The ages of the 100 patients ranged from 10 years to 79 years. Table 1 lists the distribution by decades. There were 62 males and 38 females.

Table 1. — *Ages of 100 patients with chronic urticaria and dental infection*

Age range, years	Number of patients
10-19	3
20-29	13
30-29	27
40-49	31
50-59	24
60-69	1
70-79	1
Total	100

Dental disease. Chronic alveolar abscesses were present in 35 patients, in 22 males and in 13 females. Advanced periodontal disease was present in 28 patients, in 21 males and in seven females. Both alveolar abscesses and periodontal disease were present in 13 patients. Fifty patients had no evidence of dental infection. Caries was extensive in 34, moderate in 19, and slight in 22 patients.

Seventeen patients with chronic dental infection were treated and were adequately followed. The course of the chronic urticaria was unaffected in 11. It disappeared after dental surgery in six patients and remained absent for follow-up periods of from one month to 13 years. Urticaria recurred subsequently in three of the six patients after 13 years, 11 months, and 3 months respectively.

Comment

Chronic dental infection in 50 of 100 patients with chronic urticaria is a high incidence, which may be related to the selection of cases. The treated patients reviewed in this series are too few to indicate the coincidental or causative relation of dental infection to urticaria. Certainly the lack of effect on the urticaria from removal of the infection by extraction in the 11 patients indicates the absence of an etiologic correlation in this group, if indeed the infection was completely eradicated.

Since the course of chronic urticaria is notoriously unpredictable, it is difficult to evaluate the part played by dental infection in producing urticaria in the six relieved patients. For example, a 40 year-old woman who had hives intermittently for six years, and who was found to have chronic alveolar abscesses, retained roots, and rampant caries, had no treatment whatsoever, and the urticaria disappeared after the initial studies were completed.

The courses of three treated patients illustrate the problems of interpretation.

Examples

Case 1. A 47-year-old man had asthma persistently since the age of 32 years. He had urticaria and angioedema for 10 months prior to examination here, with remission for no

more than three days at a time. Physical findings were within normal limits except for carious teeth. Allergy studies yielded no clue to a possible drug, food, or inhalant mechanism for the hives. Dental studies showed a periapical abscess associated with a badly carious upper left cuspid. After extraction of this tooth, urticaria disappeared promptly and remained absent during the six-year follow-up period. Asthma cleared completely for one year and then returned in a mild degree.

Comment. Such a case gives rise to the idea of an etiologic role of dental infection in urticaria and also, at times, in asthma, although the mechanism is obscure.

Case 2. A 35-year-old man had recurrent "giant hives" for more than two and one-half years when first examined in 1937. The longest interval of freedom from urticaria was two and one-half months. Physical and laboratory findings showed no abnormalities. Dental findings showed a horizontally impacted lower third molar with some evidence of bone rarefaction around the coronal portion. Later, acute local infection developed and the molar had to be removed. The urticaria ceased abruptly. He had no urticaria for 13 years. In 1949 however, he again had hives. Potential dental infection was discovered associated with an extensively carious lower left second molar. Despite appropriate treatment, urticaria continued to the time of the last follow-up in 1957.

Comment. The prompt and persistent clearing of urticaria after dental surgery suggests an important relationship to dental infection at that time. The appearance of hives 13 years later, without change after dental treatment, suggests a different cause for urticaria, and possibly suggests a coincidental correlation with the initial dental infection. The case also illustrates the need for prolonged follow-up for a complete evaluation.

Case 3. A 36-year-old man, who had asthma since childhood and also ragweed hay fever and allergic vasomotor rhinitis, had persistent urticaria and angioedema for nine months prior to examination in 1954. No dental infection was discovered, but an unerupted, impacted, lower right third molar had to be removed. Urticaria cleared promptly and had not returned nine months later.

Comment. In this patient, urticaria ceased after dental surgery for an anatomic abnormality without evidence of dental infection. The importance of nonspecific operative stress is suggested as a consideration in the cases of infection followed by relief of symptoms.

Urticaria may be considered to be a pattern of reaction to many different stimuli, as suggested by unpredictable remissions and exacerbations. Perhaps once the pattern has become established, a susceptibility to recurrence always remains, similar to the pattern of recurrence of asthma as indicated by Rackemann's[2] studies. Even though the importance of dental infection in urticaria is not clear, search for such infection seems indicated in patients with stubborn urticaria of obscure origin, since prompt clearing occasionally does follow indicated dental surgery. Moreover, such treatment improves the patient's general health.

A review of the incidence of dental caries showed 53 patients with moderate-to-marked or rampant susceptibility to caries.

Summary and Conclusions

Evidence of chronic dental infection was found in 50 of 100 patients with chronic urticaria. After dental treatment of 17 patients, urticaria was unchanged

in 11, was relieved in six with subsequent return of urticaria in three, in 13 years, 11 months, and three months, respectively.

The course of the treated patients in this small series does not suggest a frequent or important relationship of dental infection to urticaria, although occasionally gratifying relief of symptoms may follow appropriate dental treatment. The dental treatment should be complete with removal of the demonstrated infection, repair of other salvable teeth, and replacement of the missing teeth so that optimal function of mastication and oral health may prevail.

References

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