Treatment of Juvenile Recurrent Parotitis

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KEYWORDS

• Juvenile recurrent parotitis • Medical treatment
• Sialography • Sialendoscopy

Juvenile recurrent parotitis (JRP) is a nonspecific sialadenitis with recurrent inflammation of parotid glands in children. JRP is the second most common cause of parotitis in childhood, only after paramyxovirus (the mumps). Furthermore, chronic enlargement of the parotid gland with recurring infection may lead to mistaking this disease for other differential diagnoses such as Godwin's benign lymphoepithelial lesion,[1] chronic punctate sialectasis, Mikulicz disease, and Sjögren syndrome.[2]

Clinical symptoms of JRP include recurrent parotid inflammation with swelling or pain associated with fever. This pathology is usually unilateral, but bilateral can occur with symptoms usually more prominent on one side. The particular natural history of this disease is its recurrence. The first episode typically occurs between the age of 1 and 2 years and is most often not diagnosed, goes unnoticed, or is mistaken for the mumps, otitis, or pharyngitis.

The diagnosis, often made after the third or fourth episode, is suggested from the history of the disease, the clinical examination, and ultrasonographic findings. The interval between two acute episodes is variable, with an average from 15 days to 2 months, but the disease always recurs. The main criteria for establishing the severity of JRP is the frequency of the recurrences.[3]

The true severity of this disease is its inexorable progression leading to the destruction of the glandular parenchyma with a diminution of its functionality by 50% to 80%. Ultrasonographic findings then show vacuoles, a dilatation of Stensen's canal, and a wide-open ostium. The challenge is, thus, to diagnose JRP as early as possible, to provide treatment, and to avoid the ultimate destruction of the gland.

Many causes have been described as being responsible for JRP. The present consensus favors a multifactorial origin. However, the main cause is decreased salivary production with an insufficient salivary outflow through the ductal system, which favors ascending salivary gland infections via the oral cavity. Partial obstruction of the

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ducts is gradually followed by retention and duct dilatation. Thus, further infection is facilitated by sialostasis.[4] Microbiological studies show the same mixed streptococcal and staphylococcal pathogens as found in the oral cavity.[5]

A diminution of local or general immunity has been suggested by several studies on genetic factors and immunoglobulin A deficiency. Allergy has also been incriminated, but not confirmed, as a predisposing factor.[6–8]

TREATMENT OF JRP

Medical Treatment

The treatment modalities range from conservative observation to invasive surgical procedures. Indeed, some investigators advocate abstention because of the habitually spontaneous disappearance of the signs in 95% of the cases before or at puberty.[9] These investigators use preventive therapy against recurrences such as massages, encouragement of fluid intake, warmth, and use of chewing gum or sialogogues. Antibiotic treatment is often proposed but with varying regimens. Cohen and colleagues[10] recommended long-term, low-dose prophylactic antibiotics when an immunoglobulin A deficiency is observed. Antibiotics, analgesics, mouth rinses, and sialogogues are considered the first line of treatment.

Surgery

Minor surgical procedures have been described. One is ligation of Stensen duct to create a pressure-induced atrophy of the secretory acinar cells. However, this method is rarely used because of frequent sialocele or abscess formation. According to the literature, another method of facilitating acinar cell atrophy is through denervation of the parasympathetic supply to the parotid by transecting Jacobson nerve in the middle ear cleft. Some investigators have proposed transecting the chorda tympani nerve, but the results have been unsatisfactory with recurrence of the salivary flow.

Major surgical approaches include superficial, subtotal, and total parotidectomy. Usually only radical methods resolve symptoms, but they are known to be associated with complications such as a high rate of facial nerve damage, Frey syndrome, earlobe numbness, traumatic neuroma of the greater auricular nerve, and unsatisfactory aesthetic results. Only total parotidectomy resolves symptoms, not partial parotidectomy.[11–13]

Sialography and Sialendoscopy

Many different types of intraglandular medical treatment have been described. Ductal injection of normal saline (0.9%) solution and manipulation with a lacrimal probe via the ostium of Stensen duct has been recommended. Tetracycline instillation into the parotid duct has also been described as having effective results through its sclerotic and cytotoxic effects in the gland.[14] Wang and colleagues[15] proposed intraductal injections of methyl violet, which induced widespread fibrosis and reduction of gland activity with resolution of clinical symptoms. However, it has been established that these dyes are capable of carcinogenic activity, so their intraglandular use should be discontinued.[16]

Galili and Marmary[3] were the first to use lavage to treat JRP with sialography, with good results in 13 of 15 children with unilateral swelling. Symptoms persisted in five of seven children with bilateral disease. Nahieli and colleagues[2,17] treated JRP by dilatation and abundant flushing (60 mL) under endoscopic control in a series of 26 cases (between 1993 and 2002) with a resolution of symptoms in 92% of the cases with a follow-up of 36 months.