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Case Report

Recurrent Parotitis in Children (Juvenile Recurrent Parotitis) - A Case Report with Radiological Review

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ABSTRACT

Juvenile recurrent parotitis is uncommon condition in children .It presents as unilateral or bilateral recurrent swelling of parotid glands .Though its etiology is uncertain, genetic inheritance, local auto-immune manifestation, immunodeficiency, allergy and viral infection have been suggested. Children should be screened for Sjogren's syndrome and immune-deficiency including HIV. We report a case of 6 year old male child who presented with 4 episodes of non-painful recurrent swelling of bilateral parotid gland in past 2 years.

Key words: Parotitis, recurrent, juvenile, children, sialadenitis.

INTRODUCTION

Juvenile recurrent parotitis is non-suppurative, non-obstructive parotid inflammation in young children. It is characterised by recurrent episodes of bilateral or unilateral parotitis over period of years. It is rare condition and is of unknown etiology. It is usually self limiting and treatment is not yet standardized. It is defined as recurrent parotid inflammation, generally associated with non-obstructive sialectasis of parotid gland. It is characterised by recurrent episodes of swelling or pain in parotid glands usually associated with fever and malaise. It usually affects children and has usual tendency to resolve after puberty. Sometimes may persist in adulthood. [1]

CASE REPORT

A 6 year male child presented with recurrent episodes of painless swellings of both parotid glands. He had 4 episodes in last 2 years. Each episode lasted for 3 to 10 days. There was mild fever with no h/o dryness of mouth and eyes, joint pains and swellings and skin rashes to suggest auto-immune disorder. On examination, both parotid glands showed mild enlargement. They were smooth, soft to firm in consistency and non-tender. On pressing gland, there was no serous discharge. No erythema found at duct opening. Hb, TLC and ESR were normal. RA factor, Sr. ANA and HIV status were negative. USG of bilateral parotid glands (FIG I A, B and FIG 2 A, B) showed mild diffuse enlargement with heterogeneous echotexture with multiple hypoechoic areas suggesting sialectasis. No significant increased vascularity was noted on Doppler (FIG IC, 2C).

Fig 1 (A) **Fig 1 (B)** **Fig 1 (C)**

FIG 1: Longitudinal (A) and transverse (B) section of right parotid gland – shows mild enlargement with heterogeneous echotexture with multiple small hypoechoic areas. Fig I (C) – colour Doppler shows no significant increase in vascularity in right parotid gland.

Fig 2 (A) **Fig 2 (B)** **Fig 2 (C)**

FIG 2: Longitudinal (A) and transverse (B) section of left parotid gland – shows mild enlargement with heterogeneous echotexture with multiple small hypoechoic areas. Fig 2 (C) – colour Doppler shows no significant increase in vascularity in left parotid gland.

DISCUSSION

The disease presents between 3 and 6 years of age. [2] Leerdam showed biphasic age distribution with peaks at 2 to 5 years of age and at 10 years. [3] Symptoms often last for 2 to 7 days with average of 3 days. Mean frequency is 8 episodes per year. [2] However it may occur more than 20 attacks per year.

The affected gland shows sialectasis of distal ducts, however there is no element of obstruction in most cases. Despite various theories, its cause remains unknown. Usually, ascending infection from oral cavity is primary event with sialectasis occurs as secondary change. Masnard proposed following sequence of events leading to recurrent parotitis. [4] A) Dehydration and debility causes low salivary flow rate with resultant low grade inflammation of gland and duct epithelium. B) As a result there is distortion and stricture formation in distal ducts followed by metaplasia of duct epithelium. C) Metaplasia results in excessive mucous secretion.

These sequences of events with possibly further reduction in salivary flow rate predispose to recurrent parotitis. Low salivary flow rate may be a primary factor in its pathogenesis rather than occurring due to glandular damage caused by primary infection. [5] Flow rate is reduced even in unaffected gland in patients with unilateral disease. [4] This suggests that low salivary flow rates predisposing to repeated ascending infections. This also explains familial tendency of recurrent parotitis. [6]

Other theories are association with allergy, upper airway infection, auto-immune, congenital sialectasis. However, their real participation in etio-pathogenesis is uncertain. [3]

Chronic sialectasis parotid (CSP) in infants and adolescents is special entity

whose pathogenesis is associated with immune-pathological reaction MALT (Mucosa associated lymphoid tissue). [6] This suggest hypothesis of auto-immune etiology. IgA deficiency was found in children with recurrent parotitis by Shkalm who suggested that lack of IgA may be involved in its pathogenesis. [7] The symptoms are usually unilateral than bilateral, symptoms are more prominent on one side. The frequency rate peaks during 1st year at school which remains fairly constant until puberty for each individual. After puberty the symptoms usually subside and may completely disappear. [1]

Pathological findings in recurrent parotitis are pseudo-cystic dilatation of intralobular ducts, peri-ductal lymphocytes, infiltrative intra-acinar fibrosis and variable degrees of atrophy and fibrosis of acinar gland. [7]

USG is preferred over sialography in its detection due to easy availability and accessibility and its non-invasive nature to assess salivary glands. USG shows mild enlargement of parotid gland with heterogeneous echotexture with multiple small hypoechoic areas which correspond to sialectasis seen in sialography. [3] Study conducted by Ivan Dieb Miziaro et al. in 2005 showed heterogeneous echotexture of parotid gland in 100 % of cases, hypoechoic areas in 40 % and intra-parotid lymph node in 60 % cases. [3] The incidence of hypoechoic areas in recurrent parotitis is variable. However, heterogeneous appearance of glands is commonest finding. USG is increasingly used for diagnosis and follow up cases. Long term follow up of recurrent parotitis cases with USG eventually reveal normal parotid glands.

Sialography, though mainstay of diagnosis in recurrent parotitis, its use is becoming secondary to USG. Typical characteristics of recurrent parotitis are punctate and globular sialectasis scattered throughout the gland. Cavitatory and destructive sialectasis are not seen. [1]

Prevention of recurrence is difficult, preventing dehydration and prophylactic course of antibiotics may help but statistics are available to substantiate these beliefs. Treatment of acute episodes aims at relieving symptoms and to prevent damage to glandular parenchyma. Analgesics and antibiotics rapidly relieve pain and swelling. Additional treatment includes sialogenic agents to increase salivary flow, warmth and massage and duct probing. Logic behind duct probing is questionable as duct dilatation and duct stenosis is underlying pathology. Probably duct probing helps in clearing mucus plugs and cells that form in acute phase. Steroids may reduce swelling but cannot prevent recurrence. [2,4]

CONCLUSION

Recurrent parotitis in children is a rare condition of unknown etiology and is characterised by recurrent episodes of bilateral or unilateral parotitis over period of years. It is often self limiting. USG is important in its diagnosis and follow up.

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