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EPIDERMAL INCLUSION CYST: A CASE REPORT AND LITERATURE REVIEW

Dr. Vijay Kumar	(MDS), Consultant Oral and Maxillofacial Surgeon, R. D. Dental Hospital & Research Centre, Patna_800020.
Dr. Raman Kant Sinha	(MDS), Dept. of Oral and Maxillofacial Pathology, Sarjug Dental College & Hospital, Darbhanga_846003.
Dr. Priya Kumari	(BDS), R. D. Dental Hospital & Research Centre, Patna_800020.

ABSTRACT Epidermal inclusion cysts are the most frequent subcutaneous cystic lesions in human body but according to English literature are rarely associated with skin appendages. This case report presents an additional case of an epidermal inclusion cyst associated with ample black hair, episodic discharge, reducible and inclusion of sebaceous tissues into deeper layer. The presentation, diagnosis, management and outcomes of this epidermal inclusion cyst are discussed.

KEYWORDS : Epidermal inclusion cyst, Epidermoid Cyst, Dermoid Cyst, Subcutaneous cyst

Introduction

Epidermal inclusion cysts are preferably benign lesions but in some reported cases malignancy transformation also recorded. [1 - 4] Other synonyms used for epidermal inclusion cyst as epidermal cyst, epidermoid cyst, keratin cyst and infundibular cyst. [5] Epidermal inclusion cyst may develop due to entrapment / implantation of epithelial cells in deep tissues during intrauterine life secondary to trauma and accident. Clinically they are slow growing, non-tender diffuse swelling, soft in consistency, not fixed to overlaying/underlying tissues and no lymphadenopathy. [5 - 6] A key histological feature of epidermoid cyst was lined by stratified squamous epithelium with hyper keratinization, presence of granular layer and keratin flecks. [5 - 8] The choice of management for epidermal inclusion cyst is complete surgical excision/enucleation with minimum or no recurrence. [6, 8] Here we report, discuss and review a case of epidermal inclusion cyst.

Case report

A healthy 36-year-old male patient came to our centre with the chief complaint of small persistent painless swelling located in the right submandibular region since last 6 years. A painless swelling was insidious in onset after papule resorption and very slow growing with intermittent discharging in nature. After every discharge patient noticed reduction in lesion size and regain its normal form within few days after discharge. Odour of discharge material was very unpleasant. His past medical, dental and family history was unremarkable and there was no history of trauma.

On examination, around 1.5 cm x 1.5 cm diffuse swelling located in right submandibular region with normal appearing skin. The swelling was slightly hard, fluctuant, compressible, not fixed to overlaying skin, non-tender but discharging on palpation. Skin over the lesion was normal and there was no lymphadenopathy. Firstly, FNAC was performed which revealed pultaceous material and smears examination show nucleated squamous cells and anucleated squames without any malignant cells. All above features may suggest benign epidermal inclusion cysts.

Finally we planned enucleation under local anesthesia. An incision was made over the lesion and the surgical site was exposed. Just below the skin we seen pathological cavity that was filled with thick light brown fluid with foul odor, ample long black hair and very thin granulated and adhesive cystic lining **[Fig.1]**. Then cystic lining was carefully separated from underlying tissues and excised specimen was sent for histopathological examination. The microscopic examination revealed cyst was lined by hyper-keratinization stratified squamous epithelium with cystic degeneration, presence of granular layer and keratin flecks without any malignant cells **[Fig.2a]** and inclusion of sebaceous tissues **[Fig.2b]**. Both FNAC and microscopic features suggested epidermal inclusion cyst. After six months of surgery postoperative recovery was uneventful and no recurrence was observed.

Discussion

Epidermal inclusion cysts are preferably benign but may transformed into malignant lesion. According to Lin CY et al in 2002 and Ziadi S et al in 2010 reported malignant change in 2 year and 3 year after the initial detection of the lesion respectively. [1 - 4] Exact pathogenesis of epidermal inclusion cyst is still not known but possible pathogenesis of epidermal inclusion cyst is due to entrapment / implantation of epithelial cells in deep tissues during intrauterine life secondary to trauma and accident. There are two types of epidermal inclusion cyst either congenital or acquired. [5 - 7] Usual locations of congenital epidermoid cysts are in and around midline, in contrast to this acquired epidermoid inclusion cyst may found anywhere in our body. [5, 6] The time lag between inciting events and appearance of symptoms of acquired epidermoid inclusion cysts may vary from as early as 6 months to 20 years. [9] Almost similar finding was recorded in present case, where patient was asymptomatic for 30 years and then symptoms arise after resorption of papule.

According to most authors common signs and symptoms of the head and neck epidermal inclusion cysts are progressive slow growing swelling; swelling was non-tender, firm to hard in consistency, non-compressible and non-reducible; overlaying skin was normal in color and texture without any sign of induration and no lymphadenopathy. [5 - 9] In the present case most of the signs and symptoms were similar to epidermoid inclusion cysts except intermittent discharge of thick light brown fluid with foul odor on palpation, reducible, intraoperative findings such as adherent to the underlying tissues and ample black hair. Out of these first three symptoms may develop due to episodic acute exacerbation. Presence of ample black hair in head and neck epidermal inclusion cyst was a probably new feature recorded in this case but is frequently associated with other variant of teratoma. [10 - 11]

In present case microscopic examination revealed cyst was lined by hyper-keratinization stratified squamous epithelium with cystic degeneration, presence of granular layer and keratin flecks and inclusion of sebaceous tissues. All above features confirm epidermal inclusion cyst. Out of these most of the features were similar to other authors except inclusion of sebaceous tissues into deep tissue is a new histopathological feature recorded in present case. [5 – 8, 12]

Epidermoid inclusion cyst may enlarge with time progress, discharge and developed secondary inflammation and untreated cases may transform into malignancy. [1 – 4, 13] Therefore early prophylactic excision of the lesion may prevent such incidences. Most authors agreed gold standard treatment of epidermoid inclusion cyst is complete surgical excision / enucleation with care to separate underlying tissue from adhesive cystic wall. In general rate recurrence of epidermoid inclusion cyst is rare. Out of these recurrences most are found in those cases where incomplete removal and / or infected cyst were encountered.

Conclusion

This case report presents a relatively rare case of epidermal inclusion cyst associated with ample black hair, episodic discharge, reducible and inclusion of sebaceous tissues into deeper layer. Diagnosis of this lesion, on the basis of clinical and microscopic features is very difficult due to some overlapping features of dermoid cyst; therefore, minute histopathological finding like presence of granular layer along with keratin flecks is crucial for identification, treatment and prognosis of such lesions.

Conflicts of interest

Nil

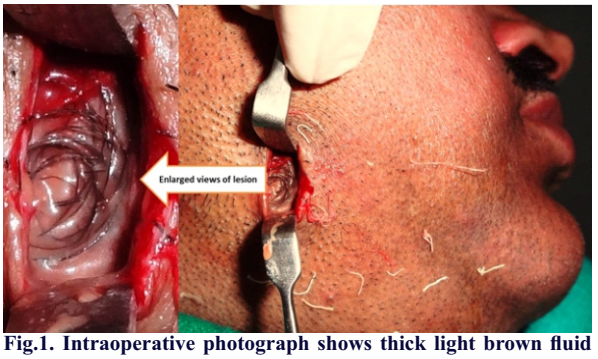

Fig.1. Intraoperative photograph shows thick light brown fluid and ample long black hair in the cystic lumen.

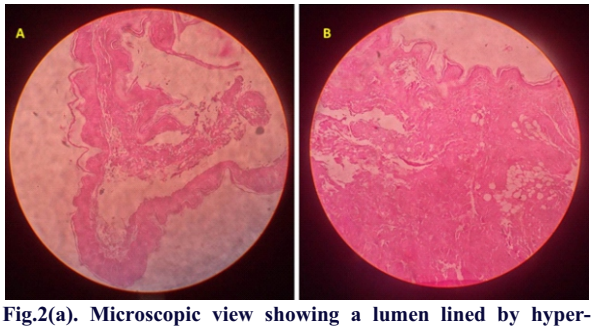

Fig.2(a). Microscopic view showing a lumen lined by hyper-keratinization stratified squamous epithelium with cystic degeneration, presence of granular layer and keratin flecks without any malignant cells. (b). Microscopic view showing inclusion of sebaceous tissues. H & E x 40

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