Case Report

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Surgery Section

Myxoid Cyst of the Hallux

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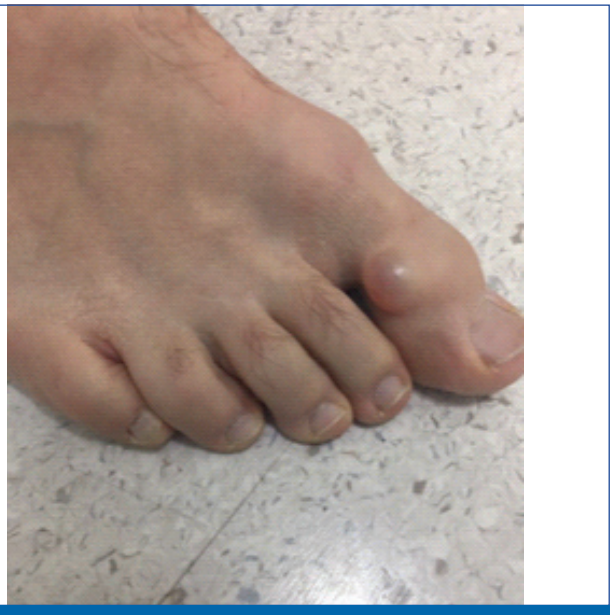
ABSTRACT

Digital myxoid cysts are soft, round nodules found on the fingers or toes. Their exact cause is disputed and they appear to arise from the synovium of the interphalangeal joints. The present case report is of a 47-year-old male who was referred for the treatment of a myxoid cyst overlying the dorso-lateral aspect of his right hallucal interphalangeal joint that had begun to cause shoe-fitting difficulties and aesthetic concerns. The lesion was excised in toto and the underlying interphalangeal joint capsule repaired. Patient experienced an uneventful recovery and was discharged without pain or recurrence at 12-weeks, postoperatively. The excision of a myxoid cyst with repair of the underlying joint capsule may provide permanent relief.

Keywords: Bursa, Cysts, Hallux disorders, Osteoarthritis, Toe joint

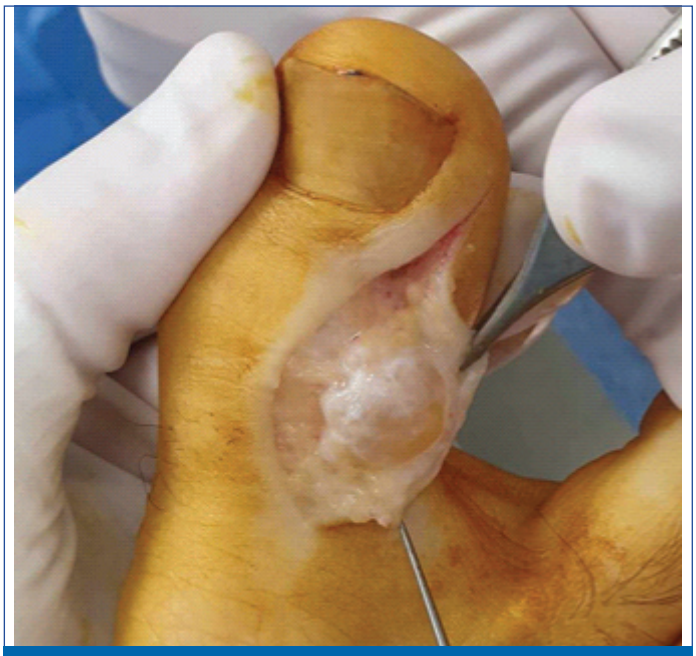
CASE REPORT

A 47-year-old male had been referred regarding the chronic worsening interdigital irritation and aesthetic displeasure caused by a soft cyst-like lesion overlying his right great-toe. It was tender when rubbed against his footwear or the adjacent toe. His medical history was unremarkable, except for a 30 year history of asthma treated with fluticasone propionate 250mcg/actuation one inhalation each morning and salbutamol sulphate 100mcg/actuation two inhalations every four hours, as required. The cyst had been progressively enlarging over the last 12 months and he could not remember the exact event that precipitated its onset. He had undergone aspiration of the cyst on two separate occasions with his general practitioner and once from his podiatrist, however the lesion returned and he indicated his preference for surgical excision of the cyst rather than leaving it in situ. Clinically, a moderately large cyst measuring 18 mm in diameter was exhibited in the subcutaneous tissues overlying the dorsal-lateral aspect of the right hallux [Table/Fig-1]. The overlying skin appeared stretched due to the density and size of the lesion. No pain was elicited with palpation of the cyst or any of the articular margins of the right hallucal interphalangeal joint or upon passive mobilisation of this joint. The provisional diagnosis was that of a myxoid cyst.



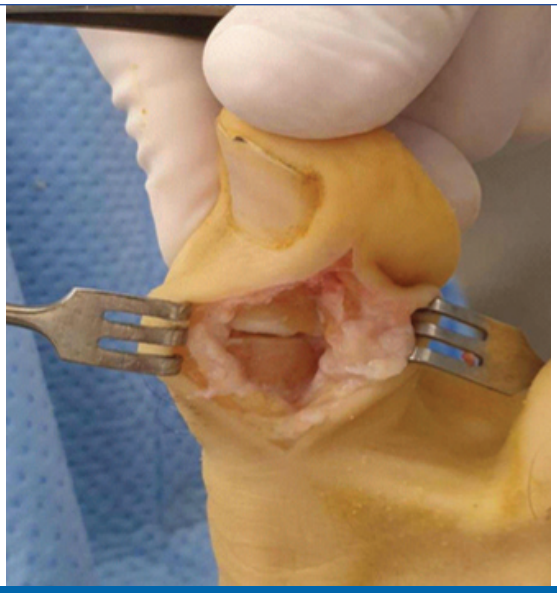
[Table/Fig-1]: The cyst overlying the dorsal-lateral aspect of the right hallux.

His preoperative blood examinations were normal. The patient's right foot and leg were prepped and draped in the usual fashion to facilitate a sterile field. A calf tourniquet was inflated to 270 mmHg. A right first ray Mayo block was performed using 18 mL 0.75% ropivacaine hydrochloride plain solution combined with 4mg dexamethasone sodium phosphate. The cyst was excised from the subcutaneous tissues overlying the dorso-lateral aspect of the right hallucal interphalangeal point via a dorso-lateral curvilinear incision [Table/Fig-2]. The body of the cyst was found to be overlying a sharp osteophytic process protruding from the dorsal-lateral condyles of the right hallucal interphalangeal joint. A dorso-lateral condylectomy was performed to the right hallucal interphalangeal joint using rongeur forceps and a power burr [Table/Fig-3]. Lateral capsule and ligament repairs were performed using absorbable suture material.



[Table/Fig-2]: The myxoid cyst being excised from the subcutaneous tissues via a dorso-lateral curvilinear incision.

Histologically, clefts and loose connective tissue containing mucopolysaccarides were exhibited. The patient was allowed to weight-bear immediately postoperatively in a protective postoperative sandal and was instructed to wear for three weeks. At his six week review, he had experienced an uneventful recovery with no recurrence of his myxoid cyst.



[Table/Fig-3]: Dorso-lateral condylectomy to the right hallucal interphalangeal joint.

DISCUSSION

Myxoid cysts are solitary, partially translucent, oval cysts overlying the interphalangeal joints of the fingers or toes [1,2]. Their usual descriptive title 'digital myxoid cyst' is inaccurate, as they are technically pseudocysts due to the lack of epithelial lining [3]. They usually occur in individuals between 40 and 70 years of age, most often in the vicinity of an osteoarthritic joint, with females being affected with twice the frequency as men. Usually, occurring as a single cyst, there are a subset of individuals who experience multiple lesions [1]. There are two types of classification, myxomatous and ganglionic [3,4]. Myxomatous cysts occur independently of the underlying joint and are believed to be a result of the proliferation of fibroblasts overproducing hyaluronic acid [2,5]. The ganglionic variation involves mucous material derived from the joint fluid of the interphalangeal joint. The rheumatic origin of the ganglionic variant was observed in two studies whereby methylene blue injection was administered to the lesion and observed via Magnetic Resonance Imaging (MRI) [6,7]. In both variations, trauma and chronic pressure have been associated with the formation of the cyst [8]. Treatment options are varied and there is no current consensus as to a gold standard [9]. Excision has been reported as the most successful modality with recurrence rates of ≤5% in primary cyst excision and ≤2% in primary excision with osteophyte excision and joint capsule repair [10]. Other treatments including sclerotherapy (77%) cryosurgery (72%) needling with corticosteroid deposition (61%), and compression (39%) have been proposed [10]. A 40% of cysts seem to resolve spontaneously [10]. Histologically, clefts and loose connective tissues are seen which contain mucopoly-saccarides [1,2]. de Berker D and Lawrence C repaired the communicating defect between cyst and joint in 54 subjects [6]. Methylene blue dye was first injected into the interphalangeal joint followed by a skin flap that was designed around the cyst to identify the communicating leakage point. This leakage point was sutured with no tissue excision. At 8 months, 48 patients remained cured without cyst recurrence. Jabbour S et al., performed a systematic review of myxoid cyst treatment methods [11]. They reported high cure rates for surgical excision and joint repair (95%) and recommended surgery as the first-line treatment. High recurrence rates were reported with other treatment options including corticosteroid deposition (61%) and expression of cyst contents (39%).

CONCLUSION(S)

A case of a myxoid cyst overlying the dorso-lateral aspect of the right hallucal interphalangeal joint causing interdigital irritation and aesthetic displeasure that was not respondent to conservative care was presented. The lesion was excised and the underlying interphalangeal joint capsule repaired. Patient experienced an uneventful recovery up until his 10 week discharge appointment with no sign of cyst recurrence.

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