

Intravenous Pyogenic Granuloma - A Case Report

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Citation

S Vijayan, K Vijayan. *Intravenous Pyogenic Granuloma - A Case Report*. The Internet Journal of Orthopedic Surgery. 2008 Volume 11 Number 2.

Abstract

Background: Intravenous pyogenic granuloma (IVPG) was first described by Cooper et al in 1979. Published literature has shown it to be a rare benign lesion, with a strong history of undertreatment in patients given its poor clinical diagnosis. **Case presentation:** Here we present a case of a 16 year old patient who had a small, fluctuant swelling removed from the flexor aspect of the left index finger. Subsequent histological analysis confirmed a rare IVPG; the first of its kind reported in the finger. **Treatment** consisted of removal of the segment of vein to which the lesion is attached to in order to prevent recurrence. **Conclusion:** We discuss this clinical case and review the literature in this area.

INTRODUCTION

Pyogenic granulomas are relatively common mucocutaneous vascular lesions (1). Intravenous pyogenic granuloma (IVPG) is a rare, benign intravenous counterpart of the cutaneous pyogenic granuloma (2). This lesion most commonly presents in the neck and upper extremity as a subcutaneous nodule. There have been four reported cases of IVPG of the hand in the literature and, as far as we are aware, no reports of IVPG of a finger. We present a case of IVPG of the left index finger and a review of the current literature.

CASE REPORT

A 16 year old right hand dominant male presented to General Practice in March 2006. The presenting complaint was of a mass over the flexor aspect of the left index finger. There was no history of trauma, however, the mass had been increasing in size over a period of approximately a few weeks. There were no other changes in its appearance but it had started to interfere with his daily activities, especially sports. Subsequently, the patient was referred from General Practice to the local Orthopaedic Triage Service in May 2006.

On assessment, a pea sized, fluctuant, cystic swelling was noted over the flexor aspect of the left index finger middle phalanx. The mass was not fixed or pulsatile, nor were there any overlying skin changes. The mass was diagnosed, after examination, as a ganglion. As such, the patient was offered excision and accepted. In September 2006, excision of the lesion was undertaken under local anaesthetic. On

exploration of the lesion, it appeared to be an arterio-venous malformation originating from a superficial vein. The lesion was carefully dissected out, including a segment of the vein it was attached to, and sent for histo-pathological evaluation. This demonstrated a dilated vessel filled with a lobulated proliferation of capillaries of varying calibre. These features were in keeping with a benign IVPG.

The patient was reviewed 18 months after excision. There was no sign of recurrence and the patient had made an unremarkable recovery with return of full function to the affected finger.

DISCUSSION

IVPG was first described by Cooper et al in 1979 (3), using a series of 18 patients. These benign lesions are, along with their cutaneous counterparts are forms of lobular capillary haemangioma. They are characterised by a lobular proliferation of capillaries similar to cutaneous and subcutaneous pyogenic granulomas, but differ by their confinement within the lumen of a vein.

Clinical presentation of the lesion is subtle. It tends to occur as a subcutaneous, slow-growing nodule affecting the neck and upper extremities in middle-aged people (4) however, rarely, it may occur in sites such as the hand (2,4,5,6) and ocular adnexa (7). Furthermore, Mills et al (8) reported on a series of 73 cases of lobular capillary haemangioma involving the oral and nasal mucous membranes. There is normally no history of trauma and pain is rare. The lesion

can become painful if ulceration, suppuration or bleeding occurs. We believe this is the fifth case of IVPG to be reported in the hand and, as far as we are aware, the only case to be reported in a finger.

The clinical features are normally of a small, soft, mobile subcutaneous nodule and are not pathognomic. Light microscopy has been tried and shows features of a pyogenic granuloma (9). Ghekiere et al (10) demonstrated the findings of ultrasonography and MRI in a lesion of the right cephalic vein. On ultrasound, the presence of hypervascularity within a lesion allows the exclusion of venous thrombosis to be made. MRI highlighted the intense intravascular topography of the lesion which suggested a tumour of a vascular origin. However, it was clear that skeletal radiology cannot confirm diagnosis of an IVPG; which can only be made with histological analysis of any excised lesion.

The gold standard method of diagnosis of IVPG is excision biopsy of the lesion followed by histo-pathological examination. Surgical technique involves complete local excision with a small portion of the vein in order to minimise recurrence (2,11). Obviously, there is a risk of local bleeding, therefore, strict haemostasis must be maintained during the procedure.

Macroscopically, the tumour appears as an intra-luminal polyp with a fibrovascular stalk (3). As aforementioned, microscopically, the appearance characteristically consists of lobules of capillaries lined by flattened or rounded epithelial cells and separated by a fibromyxoid stroma. In this case, the histological findings were equal to those described by Cooper and subsequent authors on the lesion. Occasionally, on histology, these lesions can be mistaken for other diagnoses including vegetant intravascular haemangioendothelioma (1,12). and angiolymphoid hyperplasia with eosinophilia. IVPG lacks the complex papillary structure of vegetant intravascular haemangioendothelioma whilst, in comparison to angiolymphoid hyperplasia, it lacks the extensive lymphoreticular and eosinophilia components.

CONCLUSION

This case represents a rare lesion masquerading as something more simple and, as such, it may be encountered

in the primary care setting. However, clinicians should be aware of the lesion due to the fact that it is most commonly encountered intra-operatively. This knowledge would lead the clinician to adequately excise the required venous segment whilst maintaining meticulous haemostasis, as described in the literature. In comparison to other hand IVPG's, this case followed a similar course with adequate excision, thus providing success in both functional outcome and avoidance of recurrence.

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