

## Multiple Suture Granulomas: A Rare Complication of Abdominoplasty

Azzam S. Al-Kadi

Department of Surgery, Unaizah College of Medicine, Qassim University, Saudi Arabia

**\*Corresponding Author:**

**Name:** Azzam S. Al-Kadi

**Email:** [azzam.alkadi@ucm.edu.sa](mailto:azzam.alkadi@ucm.edu.sa)

**Abstract:** Suture granulomas can occur after any surgical procedure and cosmetic surgical operations are no exception. But occurrence of multiple suture granulomas after abdominoplasty is very rare. The author successfully managed one such female reporting with anterior abdominal wall lumps and sinuses after two years of abdominoplasty.

**Keywords:** Suture granuloma, Abdominoplasty, Polydioxone, Sinus, Excision

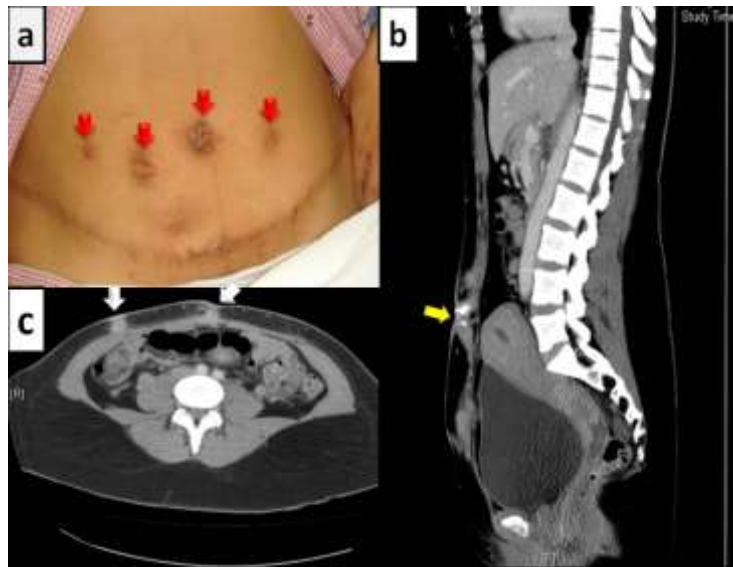
### INTRODUCTION

Abdominoplasty for correction of laxity of abdominal wall has gained global popularity in recent times but is still associated with a wide range of complications [1-2]. Suture granulomas arising as a result of foreign body reaction to buried suture material may occur uncommonly but multiple suture granulomas are a rarity and are not reported in literature. The author managed one such case who presented after two years of cosmetic abdominoplasty with multiple suture granulomas. The case is described here for its rarity.

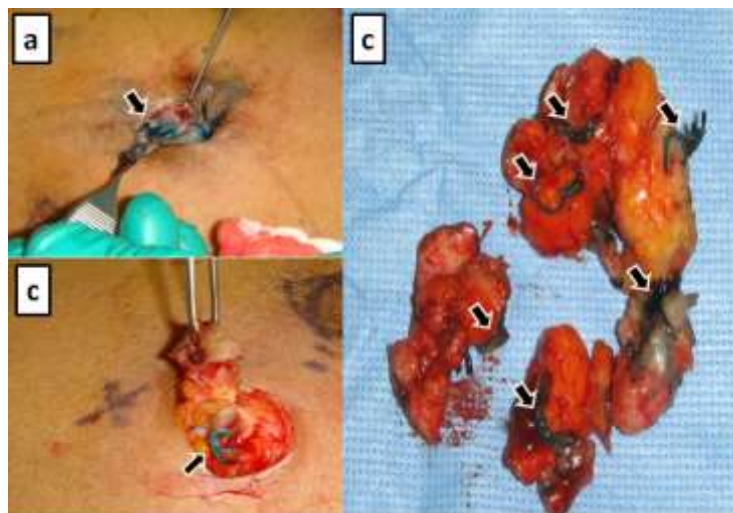
### CASE REPORT

A 35 years old female reported with recurrent umbilical discharge of 18 months duration. The complaint had started after six months of abdominoplasty done for cosmetic reasons. She had sought consultation with a general practitioner and had been prescribed antibiotics and advised umbilical hygiene. There was history of incision /drainage of fluid collections twice over the anterior abdominal wall six and two months before reporting to our department. There was no history of febrile episodes nor was any history suggestive of gastrointestinal or urinary disorder. There was no other medical or surgical history of significance. On general physical examination, the patient had stable vital parameters. Abdominal examination revealed multiple hyper-pigmented scars and firm, non tender lumps along the midline and both paramedian regions (Fig 1 a). There was a narrow mouthed sinus in the reconstructed umbilicus discharging serous fluid with no specific odor. Baseline

laboratory parameters were within normal limits. Imaging was advised and contrast enhanced CT scan of the abdomen and pelvis showed multiple slightly enhancing soft tissue density lesions in the midline and paramedian regions without skin disruption and underlying collection. The lesions were abutting the underlying anterior abdominal wall muscles. The abdominopelvic cavity contents including bowel and urinary bladder were found to be unremarkable (Fig 1 b). Contrast enhanced CT in the delayed phase showed small ring enhancing lesion in the left lower abdominal wall as well as in the midline and tiny lesion in the right abdominal wall. The urinary bladder appears poorly distended with diffuse wall thickening. Reconstructed sagittal image of the CT abdomen with sonogram had shown contrast material within the narrow sinus tract in the umbilical region without communication to the abdominal cavity (Fig 1c). No abdominal collection was seen and the visualized abdominal and pelvic contents are unremarkable. Patient was counseled and exploration of anterior abdominal wall was undertaken under general anesthesia. Exploration of sinus tract and lumps revealed granulation tissue arising around thick knots of greenish suture (Fig 2a-b). Complete excision of the umbilical sinus tract and nine lumps was done (Fig 2c). From study of previous operation notes, these knots were found to be of No 1- polyglyconate, used as tracking sutures in abdominoplasty. Histopathological examination of the excised specimen confirmed the diagnosis of suture granulomas. The patient had an uneventful recovery and was symptom free at one years' follow-up.



**Fig. 1:** (a) Abdomen with multiple hyper-pigmented scars and umbilical sinus (red arrows) (b) Axial contrast CT scan showing enhancing abdominal wall lesions (white arrows) (c) Sagittal contrast CT scan with umbilical sinus confined to anterior abdominal wall.



**Fig. 2:** (a) Umbilical sinus with suture at the base {arrow} (b) Granuloma arising from suture {arrow} (c) Excised specimen of granulomas showing thick knots and sutures {arrows}

## DISCUSSION

Abdominoplasty to correct laxity of abdomen is a very popular surgical operation globally, particularly in affluent regions. But this procedure is associated with complication (major and minor) rate of as high as 37- 50% [1-2]. The most common complications include wound healing abnormalities and hematoma/seroma formation. Suture granuloma is uncommonly mentioned in literature as complication and there is no report of multiple suture granulomas as seen in the patient managed by the author.

A suture granuloma is an aseptic fibrinous response to the inflammatory reaction induced by antigenicity of a particular suture and/or by the

exacerbation of bacterial infection of the suture, occurring during primary surgery [3].

Histopathological examination of suture granuloma typically reveals dense accumulation of epithelioid histiocytes and multinucleated giant cells, which typically surround the foreign bodies. The complication generally occurs with non-absorbable or very slowly absorbable sutures like braided silk [3-4] though cases of granulomas arising from inert monofilament nylon have been reported in literature [5].

Suture granulomas may present with abscesses, wound discharges, lumps and sinuses as in the present case or may present after significant delays

mimicking malignancies [6]. Granulomas occurring after resection of malignant tumors have been reported in literature to simulate recurrences and cause diagnostic difficulties [7].

#### **CONCLUSION**

To conclude, it is stressed that suture granulomas should be prevented by skillful wound closure based on proper knowledge of the physical characteristics of the wound, meticulous surgical technique and proper selection of needles, sutures, and instruments [8].

#### **ACKNOWLEDGEMENT**

The author expresses gratitude to the respected patient for allowing the usage of case history and accompanying images for academic purposes.

#### **REFERENCES**

1. Momeni A, Heier M, Bannasch H, Stark GB; Complications in abdominoplasty: a risk factor analysis. *J Plast Reconstr Aesthet Surg.*, 2009; 62(10): 1250-1254.
2. Neaman KC, Hansen JE; Analysis of complications from abdominoplasty: a review of 206 cases at a university hospital. *Ann Plast Surg.*, 2007; 58(3): 292-298.
3. Yuksel M, Akgul AG, Evman S, Batirel HF; Suture and stapler granulomas: a word of caution. *Eur J Cardiothorac Surg.*, 2007, 31(3): 563-565.
4. Manor A, Kaffe I; Unusual foreign body reaction to a braided silk suture: a case report. *J Periodontol.*, 1982; 53(2): 86-88.
5. Katsura H, Iuchi K, Matsumura A; Pulmonary suture granuloma with *Aspergillus* after partial resection for lung cancer; report of a case. *Kyobu Geka.*, 2005; 58(2): 169-171.
6. Carroll KM, Sairam K, Olliff SP, Wallace DM; Case report: paravesical suture granuloma resembling bladder carcinoma on CT scanning. *Br J Radiol.*, 1996; 69(821): 476-478.
7. Kikuchi M, Nakamoto Y, Shinohara S, Fujiwara K, Tona Y, Yamazaki H *et al.*; Suture granuloma showing false-positive finding on PET/CT after head and neck cancer surgery. *Auris Nasus Larynx*, 2012; 39(1): 94-97.
8. Bonni A; Suture granuloma following ventral herniorrhaphy. *American Journal of Cosmetic Surgery*, 2013; 30(1): 39-42.