International Journal of Research in Medical Sciences
Hernández S et al. Int J Res Med Sci. 2025 Jan;13(1):379-381
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20244138

Case Report

Presentation of a cutaneous fistula due to mesh migration in a postoperative incisional hernia patient

Samuel Hernández*, Rodrigo Villarreal, Yazmin G. González

Department of General Surgery, Hospital General Regional Mérida T1, Instituto Mexicano del Seguro Social, Mérida, Yucatán, México

Received: 24 October 2024
Revised: 05 December 2024
Accepted: 10 December 2024

***Correspondence:**
Dr. Samuel Hernandez,
E-mail: Samuelha1997@gmail.com

ABSTRACT

Incisional hernias are a frequent complication after abdominal surgery, ranging from 5-20% and up to 30% in patients with risk factors. Currently, hernia repair with mesh placement is recommended because it helps tension-free closure; however, there are complications such as surgical site infection, seroma, recurrence, fistula and mesh migration. We present the case of a 42-year-old female patient with mesh migration into the abdominal cavity secondary to incisional hernia repair. After reintervention with mesh remove, the patient had a favorable evolution, without complications and was discharged 48 hours after surgery. Currently the gold standard for incisional hernia repair is tension-free with mesh placement, however, this is not safe since there are several complications ranging from surgical site infection to mesh migration; the mesh migration represents a low percentage and its treatment is always surgical, but we must individualize it with each patient. In this case, we present an infrequent complication of open repair with mesh placement of an incisional hernia; however, it should be considered in the postoperative follow-up.

Keywords: Cutaneous fistula, Incisional hernia, Mesh migration, Polypropylene mesh

INTRODUCTION

Incisional hernias are a frequent complication after abdominal surgery, ranging from 5-20% and up to 30% in patients with risk factors, such as male gender, smoking, diabetes mellitus, obesity and connective tissue diseases.[1-3] The use of mesh in hernia repair helps tension-free closure compared to primary closure.[4] The recurrence rate in incisional hernia repair with mesh varies from 5-10%, taking into account that this varies according to the surgical technique, the type of mesh used and the characteristics of each patient; on the other hand, the recurrence rate of hernia repair without mesh is up to 30%, however, mesh placement can present various complications such as infection of the surgical site, seroma, hematoma, chronic pain, entero cutaneous fistulas, intestinal obstruction and mesh migration.[5] The first case of mesh migration was reported in 1976 by Herrera, later a case of mesh migration after incisional hernia plasty that caused an inflammatory tumor with small bowel involvement and adhesion to the abdominal wall was reported in the literature.[7]

CASE REPORT

42-year-old female with the following chronic degenerative history of type II diabetes mellitus, grade III obesity, surgical history, two midline cesarean the first in 2010 and the second in 2017, plasty with mesh placement with preperitoneal technique for incisional hernia M4, W2, R0 on 12/12/2022.

She began her illness in January 2023 after open incisional hernia repair, she began with an increase in volume at the wound level and seropurulent discharge, so she went to the emergency room for evaluation, she was admitted on 16/01/2023 for surgical wound infection treated with antibiotic therapy, abscess drainage and cures, on

17/01/2023 an ultrasound scan was performed at the surgical wound level, observing a small anechoic collection at the subcutaneous cellular tissue level, which measured 1.7×0.8×1.9 cm with a volume of 1.5 milliliters, she was discharged on 01/18/2023 due to clinical improvement.

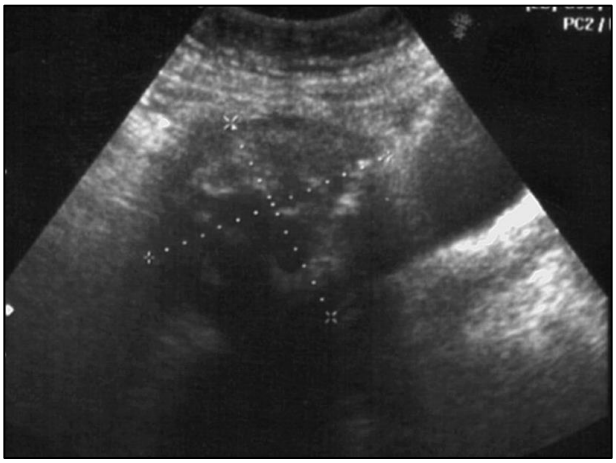

Figure 1: Ultrasound abdominal con presence de tumefaction y apparent trayecto fistulas.

Figure 2: Tumefaction in pared abdominal de 10×10 cm.

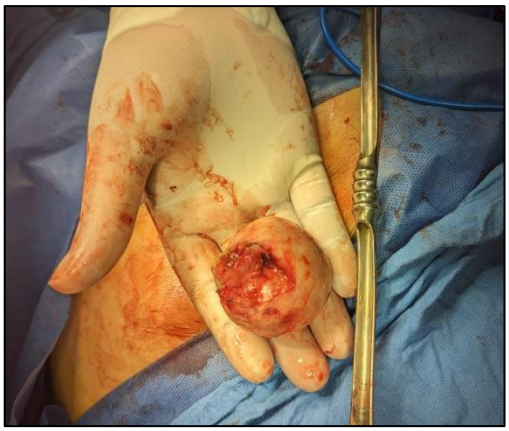

Figure 3: Resection de tumefaction.

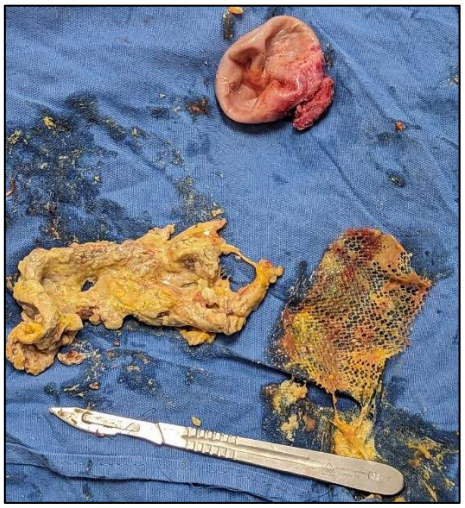

Figure 4: Contended de tumefaction, se observe male de polypropylene con Tejada fibrotic.

One month later, during an outpatient evaluation, she reported continuing with serous discharge from the wound, as well as a sensation of fullness postprandially. Physical examination revealed a surgical wound in the process of healing and a punctiform lesion in the middle third with serous discharge, with no evidence of infection, there was no palpable mesh, only increased volume, so it was decided to admit her to the hospital to complete the diagnostic protocol.

On admission an ultrasound scan was performed which reported a tumor measuring 8x10 cm in the cavity with a fistulous trajectory towards the abdominal wall with no increase in vascularity (Figure 1). An elective exploratory laparotomy was performed on 11/08/2023 under balanced general anesthesia with a 10 cm infraumbilical spindle incision, resected previous scar, incised by planes until reaching the abdominal cavity with the following findings; Purulent collection of approximately 20 cc in subcutaneous cellular tissue, aponeurosis with edema, thickened, tumor of 10x10 centimeters in abdominal cavity, attached to aponeurosis, with adhesions to intestinal loops, with well-defined capsule, integrated, solid, resection of the tumor is performed finding polypropylene mesh inside. (Figure 2,3,4). Abdominal wall closure is performed with continuous suturing with vicryl 1-0, subcutaneous cellular tissue is performed with simple interrupted sutures with vicryl 2-0 and skin closure with simple interrupted suture with nylon 2-0. Postoperative management was decided with double antibiotic treatment with ciprofloxacin and metronidazole and analgesics, with no immediate postoperative complications, so she was discharged home after 48 hours.

DISCUSSION

The incidence of incisional hernia is as high as 20% in patients with no risk factors, with recurrence after each reintervention reaching 23-50%, the risk of hernia increases depending on the type of incision made, with the

midline being the most frequent site.[2] Surgical repair is the treatment of choice, there are different options for wall closure, the main cause of failure of a plasty by the aponeurotic approach is tension, so the most indicated technique for closure with tension at present is the closure of aponeurosis continuously with absorbable material with "small bites" technique having an incidence reduction of 21% to 13%, however, the technique without tension with the use of mesh is preferred as it achieves even more reduction in the percentage of incidence of 29% to 2%.[4,7]

There are different types of meshes all according to different characteristics such as porosity, density, absorbable or non-absorbable, in order to determine the site of placement, its flexibility, anchorage, infiltration and angiogenesis.[6] The form of mesh placement can be supra-aponeurotic, retro-muscular, preperitoneal and intraperitoneal. The main long-term complications following mesh placement occur in up to 4.5% such as seroma formation 21%, abdominal pain 6.1%, cutaneous enteric fistula 4.8%, intestinal obstruction 3.7% which will depend on the surface placed due to hypersensitivity reaction to the prosthetic material.[5,6]

Mesh migration occurs in 1.1% of cases and can cause inflammatory reaction, intestinal obstruction, intestinal perforation and in some cases entero cutaneous fistula, the risk of mesh migration is much higher if it is located intraperitoneal in contact with the viscera despite having anti-adherent materials, while the preperitoneal location reduces adhesion to the viscera by inflammatory effect and prevents its migration, for mesh migration treatment must be individualized for each patient as each complication will have a different resolution.[8]

CONCLUSION

In this case, we present an infrequent complication of open repair with mesh placement of an incisional hernia; however, it should be considered in the postoperative follow-up, with a high index of suspicion, because it requires surgical reintervention as the only resolution. Delay in management can lead to multiple complications with a deterioration in the patient's quality of life and risk of death.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Omar I, Zaimis T, Townsend A, Ismaiel M, Wilson J, Magee C. Incisional Hernia: A Surgical Complication or Medical Disease? Cureus. 2023;15;15(12):56-8.
2. Deerenberg EB, Henriksen NA, Antoniou GA, Antoniou SA, Bramer WM, Fischer JP, et al. Updated guideline for closure of abdominal wall incisions from the European and American Hernia Societies. Br J Surg. 2022;109(12):345-7.
3. Tansawet A, Numthavaj P, Techapongsatorn T, Techapongsatorn S, Attia J, McKay G, et al. Fascial Dehiscence and Incisional Hernia Prediction Models: A Systematic Review and Meta-analysis. World J Surg. 2022;46(12):2984-2995.
4. Tansawet A, Numthavaj P, Techapongsatorn S, Wilasrusmee C, Attia J, Thakkinstian A. Mesh position for hernia prophylaxis after midline laparotomy: A systematic review and network meta-analysis of randomized clinical trials. International Journal Of Surg. 2020;83:144-51.
5. Kokotovic D, Bisgaard T, Helgstrand F. Long-term Recurrence and Complications Associated With Elective Incisional Hernia Repair. JAMA. 2016;316(15):1575.
6. Cunningham HB, Weis JJ, Taveras LR, Huerta S. Mesh migration following abdominal hernia repair: a comprehensive review. Hernia. 2019;23(2):235-43.
7. Rico A, Blázquez L, Sebastián JL, Montón S, Otegi I, Docio G. La técnica de Nyhus en la reparación de las hernias inguinales recidivadas: análisis de una serie de 203 pacientes. Rev Hispanoam Hernia. 2021;9(1):19-24.
8. Saiz L, Diaz J, Hernandez B, Soto S, Perez S, Feria, et al. Hallazgo incidental en paciente con enfermedad de crohn: migración intraluminal de malla de polipropileno. Hospital universitario nuestra señora de candelaria, santa cruz de tenerife. Revista Cirugia española, 2022;100(2):944.

Cite this article as: Hernández S, Villarreal R, González YG. Presentation of a cutaneous fistula due to mesh migration in a postoperative incisional hernia patient. Int J Res Med Sci 2025;13:379-81.