Surgical Treatment of Parostomal Hernias by Means of a 3D Mesh

Abdominal Wall Surgical Unit .

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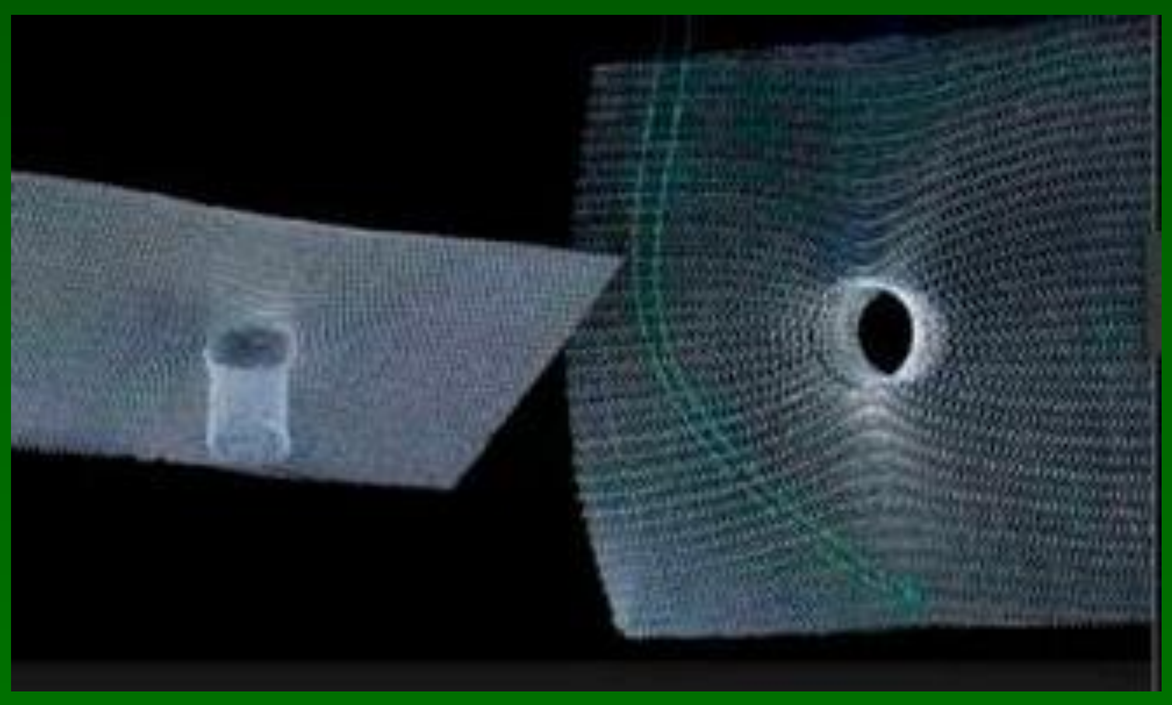
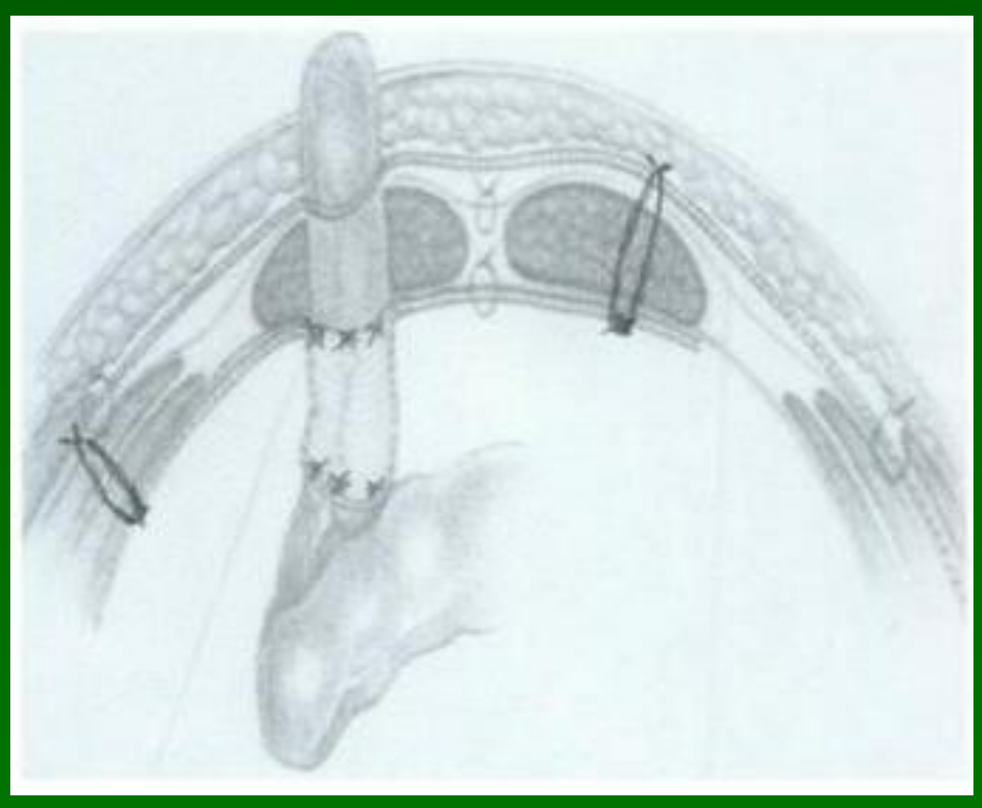
Parostomal hernia repair (PSHR) using a 3D mesh has revolutionized the care of parostomal hernia (PSH). As indications expanded from inoperable to intermediaterisk patients, procedure volumes have grown considerably and are expected to rise even further in the coming years relative to PSHR.

Material and Methods.- We have developed a new and effective procedure. From January 2012 to July 2017, 75 consecutive PSHs were repaired in our Unit through PSHR using an intraperitoneal mesh. Our patients had previously undergone from 1 up to 11 surgical procedures to obtain an effective solution for their PSH, with an average of 4.5
We used a mesh designed for this approach: the Dynamesh-IPST (FEG Textiltechnik, Aachen, Germany), which is a pre-shaped, wide-pore, coated monofilament 3D mesh, with polyvinylidene fluoride (PVDF) on the visceral side (for reducing the risk of adhesion or erosion) and polypropylene on the parietal side. Double component mesh PVDF side has a funnel that extends from its central part through which the bowel is placed and fixed. The funnel is geared towards the visceral side of the abdomen and surrounds the intestine and a portion of the mesentery when it comes out of the abdominal
wall. The part that surrounds the funnel is flat and fixed to the peritoneum of the anterior abdominal wall. The standard dimension was 16 × 16 × 3 cm; the diameter of the funnel was 3 cm.
All surgeries were performed in an elective way. The average surgical time was 157 minutes (range: 120-210 minutes).
In short, we remake the ostomy without closing the hernial ring and exteriorizing the handle as if it were hanging intraperitoneally of a hammock to achieve a more efficient result, given that the elasticity of the mesh helps cushion the increase in tension secondary to sudden increases in intra-abdominal pressure.





Results.- Only 7 patients (9,33%) included in this series relapsed.
A statistical study of the data collected (Fisher, variance or mean quadratic deviation, standard deviation or deviance, the corrected sample standard deviation, and coefficient of variation of Fisher’s test) was performed with the software SPSS 24.0 (IBM, New York, USA). The data obtained demonstrate the superiority of the new procedure compared to those previously used in our hospital.
The patients were evaluated at the abdominal radiology unit of our hospital, which is external to our regular working group according to a previously established questionnaire. CT revisions were performed approximately a year and 3 years after the intervention so that we could check the effectiveness of the repair.

Conclusions.- We have developed a new technique for the repair of the PSH that tries to obviate the disadvantages of other previous techniques; placing of the external handle through a 3D funnel mesh presents several significant advantages. The implants can be used either in open procedures or through a laparoscopic approach. The flatportion in the intraperitoneal position allows us to cover without tension the defect through which the PSH emerged. Once the handle is placed through the funnel of the prosthesis, it allows us to place the set with the most suitable orientation. Fixing the bowel to the funnel decreases the rates of prolapse.