USE OF BIOLOGICAL MESHES FOR INCISIONAL HERNIA REPAIR. A LATE SEQUEL OF DAMAGE CONTROL SURGERY

L Panier Suffat et all
DAMAGE CONTROL SURGERY

“a method of controlling but not definitively repairing a patient’s injuries”

refers to the ability of a ship to absorb damage, giving an adequate repair and maintaining mission integrity
DAMAGE CONTROL SURGERY

1. Abbreviated laparotomy: control of hemorrhage and intestinal contamination

2. Resuscitation: correction of coagulopathy, acidosis and hypothermia

3. Re exploration: definitive management of injuries and abdominal wall closure
OPEN ABDOMEN

1. Damage control surgery
2. Abdominal compartment syndrome
3. Burns
4. Non traumatic condition
TEMPORARY CLOSURE

- Containment of the abdominal viscera
- Control of abdominal fluid loss
- Maintenance of pressure on tamponated areas
- Increasing the possibility of subsequent definitive wall closure
“PLANNED VENTRAL HERNIA”
POTENTIAL COMPLICATIONS OF SYNTHETIC MESHES

- Chronic sinus 2-6%
- Entero-cutaneous fistula 0-2%
- Wound infection 9-17%
- Mesh migration
- Recurrence
- Chronic pain

Use of biological meshes for abdominal wall reconstruction
Cavallaro et al; World J Surg 2010
When a synthetic mesh is applied to a contaminated wounds, its removal is required in 50-90% of the cases.
BIOLOGICAL PROSTHESES

Their concept is to provide a collagen and other extracellular matrix scaffold, in which the host fibroblast can create angiogenesis and deposit new collagen.
CLASSIFICATION

- Origin: allogenic vs xenogenic
- Type of collagen matrix utilized: dermis, pericardium, intestinal submucosa
- Decellularization process
- Presence/absence of cross linking
- Type of storage
- Need for rehydratation
ADVANTAGES

• Absence of foreign synthetic body
• Greater biocompatibility
• Integration into host tissue and neovasculORIZATION
• Greater antibiotic diffusion
TUTOMESH: BOVINE PERICARDIUM

- No risk for transmission
- Three dimensional fibers
- Multidirectional mechanical strength
- Implanted regardless of the direction of the graft
- The material with the most published Literature
TUTOMESH: BOVINE PERICARDIUM
OPEN QUESTIONS

• Use on infected fields
• Greater resistance to infections
• Use in young patients
• Long time results
CONCLUSIONS

• Biosynthetic graft seems to offer a solution to achieve tension-free repair in highly contaminated fields.
• At present we need more data or long-term reports to establish universal consensus for the use of biological prostheses.
Thank you