

## **The use of a tailored mesh with special design for ventral hernia repair. Preliminary report.**

### **Authors**

Amato G<sup>2</sup>, Lindemann M<sup>1</sup>, Lo Monte A<sup>1,2</sup>, Romano G<sup>2</sup>, Paolucci V<sup>1</sup>, Romano M<sup>2</sup> <sup>1</sup> Department of general and visceral surgery - Kettler Krankenhaus – , Offenbach, Germany; <sup>2</sup> Department of general surgery and organ transplantation University of Palermo, Palermo, Italy

**Introduction:** The study describes a modified technique for ventral hernia repair based upon a tension free, fixation free, and dynamic compliant implant.

**Material and methods:** A unique geometrical shaped light weighted, large porous polypropylene mesh was created consisting of a large central body and six radial arms, designed to pass through the tissues and hold the mesh in place without tension. We used the mesh in a small exploratory cohort of patients with ventral hernia. The mesh was placed sublay by taking each of the six straps and passing from below the muscle, through the muscle allowing the fixation free strap to sit with friction within the tissues. This was designed to give a tension free fixation, yet be strong enough to ensure the mesh remained orientated during early healing. Each mesh was inserted with at least 30% overlap of the defect to ensure adequate coverage. Follow up was made at 1 month, 3 months and 6 months.

**Results:** Procedures were all completed with no need for additional fixation of the mesh. The only minor complication was oozing from a drain site in an early patient with a very large ventral hernia. Initial reduction of the hernia was witnessed in all patients, but the full result of reduction through incorporation and shrinkage of the mesh was seen at 3 months. There were no reports of chronic pain, hematoma or nerve entrapment. Patient satisfaction was subjective but considered high.

**Conclusion:** The arm system of the mesh allowed for a much smaller incision and removed the complicated maneuvers of suturing the mesh. The fixation arms seemed to have ensured the mesh stayed orientated in all patients during the crucial initial incorporation of the mesh. The extra large size of the mesh had two functions. Firstly it allowed a very wide lateral placement, ensuring there is sufficient overlap, when shrinkage occurs. But it also guaranteed that the mesh was placed tension free. In our opinion this is crucial for the reduction of early recurrence through

dislodgement. Our early experiences show promise and encourages to start a multicentre prospective study to investigate further.

**Disclosure**

Prof. Giuseppe Amato is paid consultant of Inshitra Medical Corporation (Irvine, CA).  
The co-authors on have nothing to disclose.