

Abdominal Wall Tumour Resection and Reconstruction: A 15-year Experience from a Tertiary Sarcoma Centre

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Aim

To analyse clinical outcomes of reconstruction techniques following abdominal wall tumour resection.

Methods

All patients with abdominal wall tumour resections involving abdominal wall musculature (subcutaneous tumours excluded) selected from database.

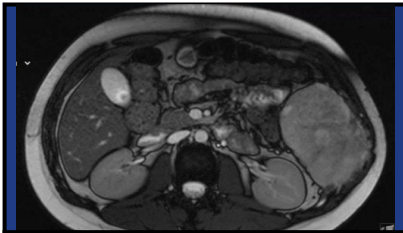
January 2009 to May 2024.

Clinical and oncological outcomes collected.

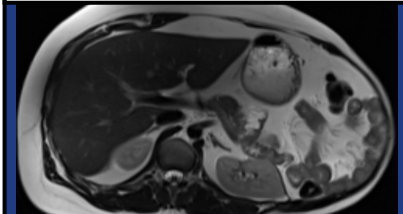
Surgical Methods

Smaller ventral defects (typical with fibromatosis) were repaired by creating an omental pocket, suturing omentum to peritoneal edges and placing prosthetic mesh in inlay position in either one or two layers.

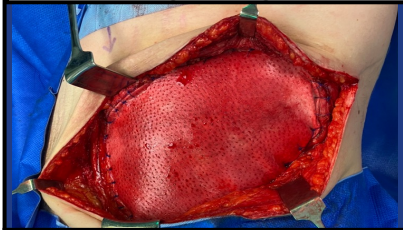
Larger defects (typical with sarcoma) where it was not possible to create an omental pocket, were repaired with a single layer of inlayed biological mesh with its limbs underlayed using parachute sutures when feasible.



MPNST of L lateral thoraco-abdominal wall



Following resection of MPNST –
note bowel against biological mesh



Mesh repair of full-thickness abdominal
defect following MPNST resection

Results

Demographics

- 209 patients
- 60% Female 40% Male
- Median age – 46y

Tumour Types

- 75 Sarcoma
- 53 Fibromatosis

Abdo Wall Tumour Resection

- 68% Full-thickness (n=143)
- 32% Partial-thickness (n=66)

Mesh Reconstruction

- 88% Total Mesh Recon (n=184)
 - 130 prosthetic
 - 54 biological
- 100% of full-thickness resections
- 62% of partial-thickness resections

	Sarcoma	Fibromatosis
Biological Mesh	61% (n=33/54)	11% (n=6/54)
Prosthetic Mesh	25% (n=33/130)	34% (n=44/130)

Post-op

- Median LOS – 3 days
- Median follow-up – 31 months

	Incisional Hernia (IH)	Surgical Site Infection (SSI)	Median Specimen Size (cm)
Biologic Repair (n=54)	7 (13%)	12 (22%)	14.3
Prosthetic Repair (n=130)	6 (5%)	9 (7%)	10.9
P-value	p=0.044	p=0.004	p<0.001
All Patients (n=209)	15 (7%)	24 (11%)	11

Conclusions

- Biological and prosthetic mesh are both safe
- Higher rate of IH and SSI in biological mesh
- Possibly influenced by larger defect size, more frequent use in sarcoma tumours and pre-operative radiotherapy in biologic group
- Careful selection of mesh and surgical technique is crucial in complex oncological abdominal wall defects