

Advances in general surgical laparoscopy

Jo Etienne Abela MD FRCS FEBS MPhil

Consultant General and Laparoscopic Surgeon

Introduction

Minimally invasive surgery has been with us for the past century. The last thirty years have seen an exponential growth in the development of laparoscopic techniques which allow major surgery to be performed through smaller incisions and less trauma leading to enhanced recovery and earlier discharge from hospital.

Diagnostics

Diagnostic laparoscopy may be performed through 3 sub-centimetre incisions, allowing an accurate exploration of the peritoneal cavity. It has changed the management of the acute abdomen and the staging of upper gastrointestinal cancer. In the former setting, laparoscopy may be employed to make a confident diagnosis of appendicitis, Meckel's diverticulitis, terminal ileitis, tubal and ovarian pathology, bowel ischaemia and visceral perforation. These conditions may be dealt with primarily by laparoscopy. In the oncological setting, low volume liver and peritoneal disease which is not readily identifiable by CT and PET, may be encountered. In these scenarios tumour upstaging will avoid unnecessary major surgery.


Biliary surgery

Laparoscopic cholecystectomy has now been performed for a few decades and was largely the primer to the development of most other laparoscopic operations. Aside from being the standard of care for the cold calculous gall bladder, it is fast becoming the treatment of choice (during the index admission) for the patient with acute biliary colic, acute cholecystitis and mild biliary pancreatitis. Intra-operative cholangiography may be performed with relative ease obviating the need for MRCP and ERCP. If bile duct stones are confirmed, laparoscopic bile duct exploration and clearance may

be offered to provide a single-stage laparoscopic management.

Hernia surgery

Laparoscopic surgery has been successfully employed in the reconstruction of all forms of herniae. The totally extra-peritoneal approach (TEP) may be used for inguinal, femoral, obturator and Spigelian defects. Recurrent and bilateral defects are particularly suited to this approach. Intra-peritoneal techniques lend themselves well for the repair of large umbilical and incisional herniae, avoiding the otherwise large incisions which are associated with protracted pain and a high incidence of infection. Laparoscopy has revolutionised the management of hiatal hernial defects. The sliding hernia associated with GORD may be treated with a crural repair and fundoplication. Large rolling (para-oesophageal) herniae containing stomach (Figure 1), but on



SAINT JAMES
HOSPITAL
Because our family cares

Saint James Hospital
George Borg Olivier Street, **Sliema**
Saint James Square, **Zabbar**

Tel: 2329 1000

occasions bowel and spleen, may be reconstructed with or without recourse to prosthetic implants (Figure 2). Heller's myotomy for achalasia (with or without an anti-reflux procedure) is now also routinely performed.

Resectional surgery

Virtually, every abdominal and pelvic organ may be excised by laparoscopy. Splenectomy (Figure 3 and 4), adrenalectomy, nephrectomy and colectomy are now being performed on a routine basis. In tertiary level centres hepatic, pancreatic and oesophago-gastric resections are still the province of the enthusiast. S



Figure 1: CT images showing gastric volvulus in a rolling hiatal hernia (hS:herniated stomach, S:obstructed stomach, d:diaphragm).



Figure 2: Completed crural repair using PTFE pledgets. AF:anterior fundoplication.

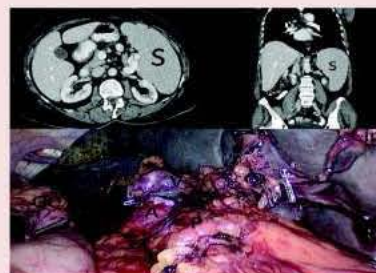


Figure 3: CT images of splenomegaly due to marginal zone lymphoma. GC:greater curve of stomach, A:splenic artery, P:tail of pancreas, V:splenic vein, ip:inferior pole of spleen)



Figure 4: Patient in Figure 3. The 25cms spleen was morcelated and delivered through a 3 cm incision in the left loin.