Abdominal wall - large ventral hernias and incisional hernia: (Recent developments - the use of imaging and Botox injection)

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Introduction

Both ultrasound and CT scanning have become increasingly useful in the diagnosis and management of conditions of the abdominal wall, particularly hernias. Large ventral, incisional and recurrent hernias remain a significant challenge despite the introduction of mesh, component separation and laparoscopy.

Recurrence rates remain between 7% and 48%.

Abdominal wall masses may include subcutaneous lipomas or rarely, muscular tumours. Ultrasound may also diagnose ruptures of the rectus muscle from either a direct blow or excess effort or straining.

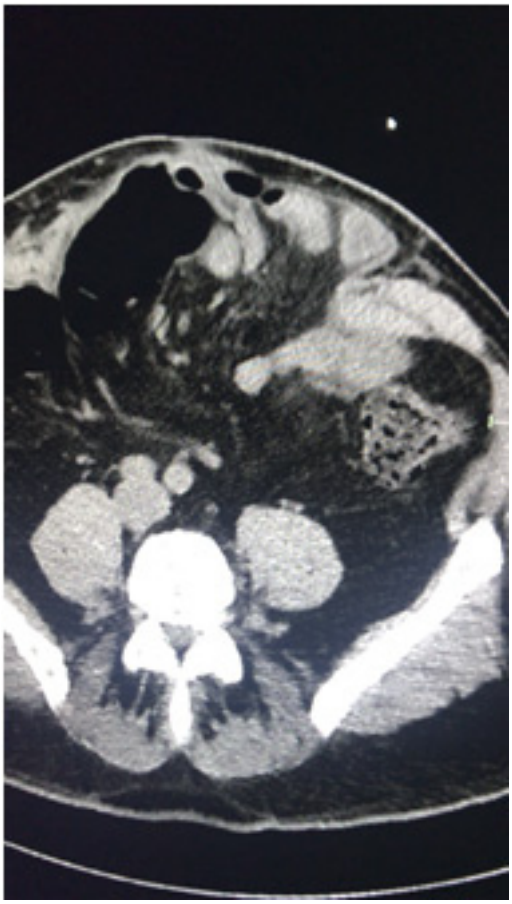
Hernias

Imaging

Both ultrasound and CT are used in the diagnosis and management of hernias.

An ultrasound can demonstrate small Spigelian hernias which are often concealed. These can even be confused with an inguinal hernia. They are not as useful for very large hernias as it is difficult to outline the whole defect.

The ultrasound can be used in the assessment of umbilical and epigastric hernias. The size of the defect may be relevant in deciding whether a mesh is used, thus facilitating an informed consent discussion regarding the use of mesh. It may also detect additional small epigastric hernias ensuring that they are not missed at surgery. An emerging use of ultrasound is as a guide to the placement of Botox, in the management of large ventral or incisional hernias.



Incisional hernia coronal view

This is a ct sagittal view demonstrating a large incisional hernia extending almost to the symphyses pubis.

CT SCANS

CT scans are most useful for very large ventral or incisional hernias, as they accurately locate and measure the number and size of the defects. This is not feasible with ultrasound alone. It is useful for the surgeon to pre-operatively anticipate the size of the mesh required and the complexity of the operation.

The CT also defines the contents of the hernia, be it omentum, bowel or fluid. It may also be used to exclude other intra abdominal coexistent pathology.

Botox

A recent important innovation is the use of Botox in the management of large ventral hernias. Botox is injected under ultrasound control into the bellies of the three lateral abdominal wall muscles on each side, two weeks prior to surgery. The Botox relaxes these muscles and enables apposition of the rectus muscles more easily. The loss of domain which can impair respiration once the hernia is closed is also minimized because of the flaccidity of the lateral abdominal wall muscles from the Botox. This lasts for about 6 weeks. This flaccidity also reduces the risk of recurrence.

It also reduces the levels of post operative pain which is often significant even with laparoscopic repair. The effect lasts for a many weeks further reducing the risk of recurrence

In Botox research the scan shows the 3 lateral abdominus muscles are lengthened considerably . This reduces the size of the defect to be closed.

The Melbourne Hernia Clinic has an educational site devoted to hernias and office surgery. A/Prof Maurice Brygel also conducts skills workshops for GPS - for details: visit www.hernia.net.au