



IMAGE ARTICLE

A Guide for Identification of Different Types of Hernias

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Introduction

A hernia is defined as an abnormal protrusion of a viscus or part of a viscus through a normal or abnormal opening in the cavity in which it is contained. It is an area of weakness or disruption of the fibromuscular tissues of the body wall. Inguinal hernia is the most common type of hernia (73%), followed by incisional (15%) and then femoral hernia (7%). This article describes these common types of hernias with an example of each, along with their major characteristics and identification features.

Inguinal Hernia

Figure 1 depicts a case of bilateral inguinal hernia with the scrotal swelling on the right side being larger than that on the left. Typical presentations include swelling in the inguino-scrotal region. The usual features of identification for hernia apply here as well but this patient has a severely enlarged globular swelling that has made even the identification of penile shaft difficult. This is not usually seen in other causes of scrotal swelling such as testicular cancer or hydrocoele and it indicates that the contents of the swelling have come from outside the scrotal sac. This is a very useful visual identification feature. Hernias of this size tend to be irreducible. Another important visual finding in this case is the appearance of redness of the scrotal swelling. It is a sign of strangulation of hernia and warrants further physical examination to confirm the same.

Femoral Hernia

The patient presented with a globular swelling in the

groin (Figure 2). It is a case of left sided femoral hernia. In order to differentiate it from other types of swellings, one has to look for certain features. For instance, it classically presents as a globular rounded swelling on inspection. Another important feature of hernial swellings is increase in size with physical activity like walking or straining and relative reduction in size when lying down. Clinically, it can be elicited by asking the patient to cough. An increase in size following coughing (known as a positive cough impulse) would confirm it as a hernia. Absence of change in size of swelling while walking or straining or a negative cough impulse does not rule out hernia but their presence is a very specific sign of hernia. It is also important to differentiate it from the more common inguinal hernia. For this, one needs to look at the boundaries of this swelling. It can be appreciated that the medial most borders are just lateral to the path of inguinal canal. This is a very useful visual distinguishing feature for femoral hernias as inguinal hernias present initially along the path of inguinal canal and later in the scrotal region whereas femoral hernias present along the path of the femoral canal. Another way to distinguish it involves palpation of swelling- neck of femoral hernia lies below and lateral to the pubic tubercle while that of inguinal hernia lies above and medial to the pubic tubercle.

Incisional Hernia (Reducible)

An incisional hernia is a protrusion of tissue that forms at the site of a healing surgical scar. While a distinct scar of a prior surgery is visible in Figure 3, the same cannot be clearly appreciated in Figure 4. Hence, it becomes important to take a detailed history of any past surgery to differentiate incisional hernias



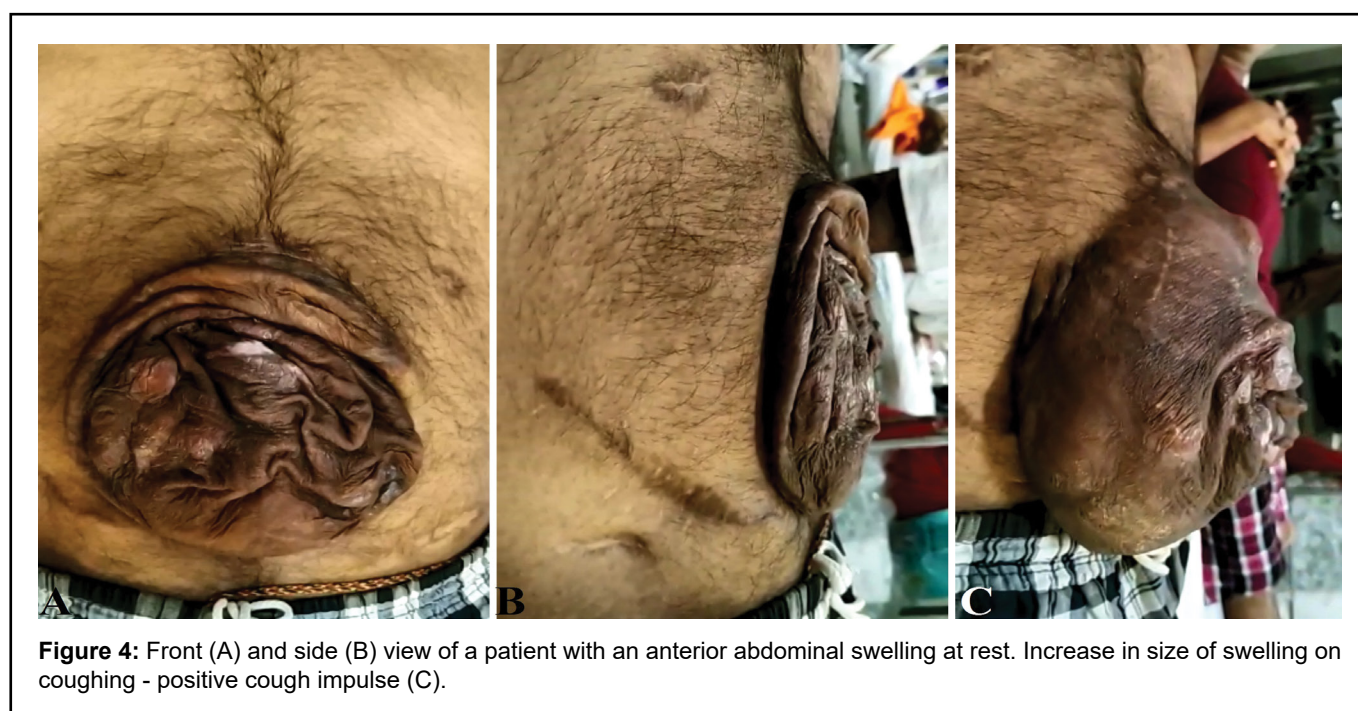
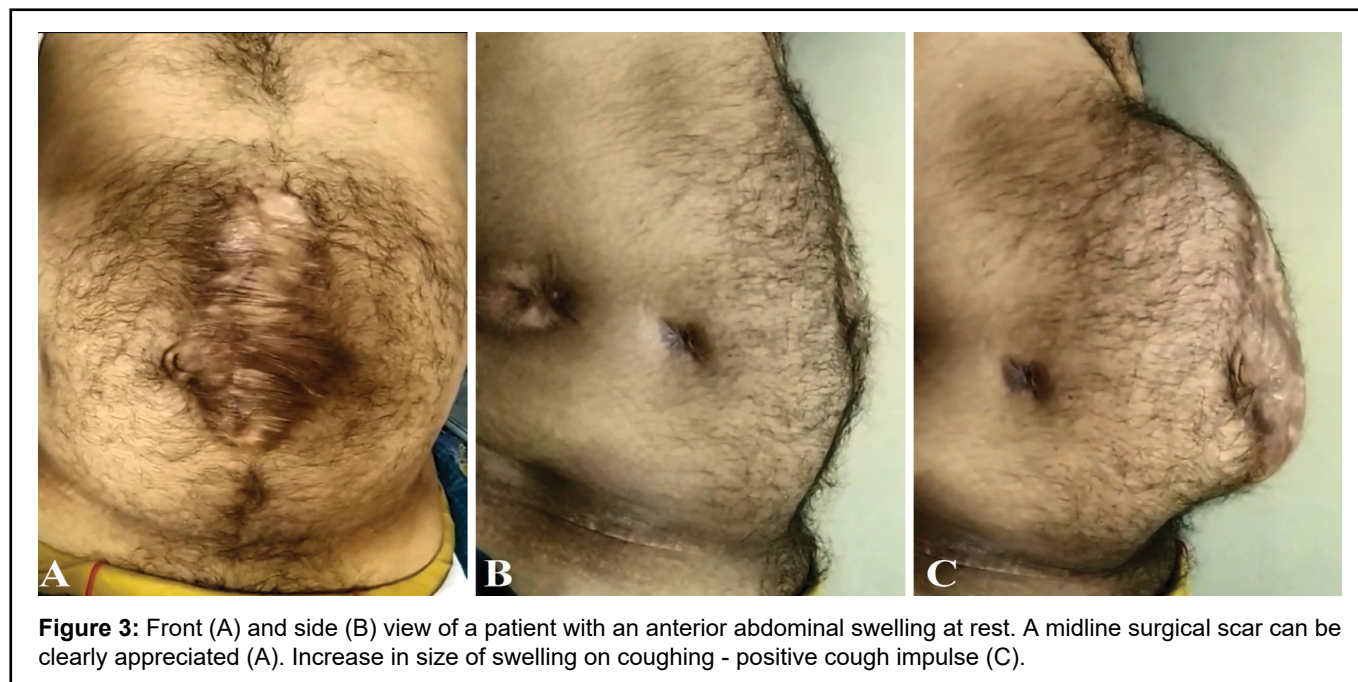
Figure 1: Large scrotal swelling with redness (white arrow). The red arrow points towards the penile shaft.



Figure 2: Swelling in the upper and medial region of the left thigh, immediately lateral to groin. The arrow points towards the position of the left inguinal ligament overlying the inguinal canal.

from other types of hernias. These hernias are reducible which means that the contents of the swelling can be reduced into the abdominal cavity at rest, when the intra-abdominal pressure is not high. In both these cases, a positive cough impulse can be elicited. Cough impulse is the most specific sign for diagnosis of a hernia on clinical

examination. The expansile impulse over the swelling when the patient coughs implies a positive cough impulse. Movement or increase in tension of a swelling without expansion is not considered as a positive cough impulse.



Incisional Hernia (Irreducible)

Figure 5 and Figure 6 depict two cases of irreducible incisional hernia. The easiest identifying feature of incisional hernia is the presence of the scar over central point of the swelling (Figure 5), although it may not always be clearly appreciable (Figure 6). Hence, it becomes important to take a detailed history of any

past surgery. Irreducible hernias cannot be pushed back manually through the opening in the abdomen because they are trapped outside the abdominal muscle wall. Hence, cough impulse may not be always elicited. Unlike reducible incisional hernia, where the gap in the anterior abdominal wall can be distinctly appreciated with the fingers on contracting the abdominal wall muscles, it may not be felt properly in cases of irreducible hernia



Figure 5: Large abdominal swelling with midline scar front (A) and side (B) view. A midline surgical scar can be clearly appreciated.



Figure 6: Large, protruding anterior abdominal swelling at rest.