ROLE OF ULTRASOUND IN ASSESSMENT OF ABDOMINAL WALL SWELLINGS

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Introduction

The abdominal wall is an anatomical term used to describe the layers that cover the abdominal cavity from its anterior, posterior, and lateral aspects. It consists mainly of skin, subcutaneous fat, fascia, and a muscle layer as well as the parietal peritoneum.

Pathological processes affecting the anterior abdominal wall can be grouped into hernias, infections, inflammatory lesions, tumors both benign and malignant, and miscellaneous lesions including endometriomas, traumatic or spontaneous hematomas.

Ultrasonography is the modality of choice for clinically suspected abdominal wall lesions. It is considered a first-line imaging modality.

Aim of the work

To assess the role of the ultrasound in the evaluation of abdominal wall swellings.

Patients and Methods

PATIENTS:

This study was carried out on 30 patients with abdominal wall swellings referred to the Radiology Department of Alexandria Main University Hospital from June 2020 to September 2021.

METHODS:

Patients in this study were subjected to Detailed history taking, Clinical examination, Ultrasound examination and Histopathological correlation or correlation with other imaging modalities whenever possible.

Results

Initial US diagnosis in the study group

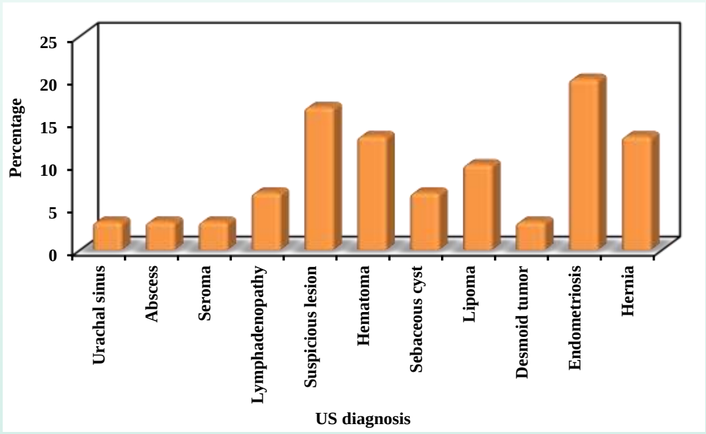

Table: Agreement (sensitivity, specificity and accuracy) for US confirmation

	Histopathological Confirmation				Sensitivity	Specificity	PPV	NPV	Accuracy
	Negative (n = 2)		Positive (n = 9)						
	No.	%	No.	%					
US confirmation									
Negative	0	0.0	0	0.0	100.0	0.0	81.82	–	81.82
Positive	2	100.0	9	100.0					

ILLUSTRITIVECASE

A 55-year-old female patient on anticoagulant therapy presented with pain and infra-umbilical abdominal wall swelling at the right rectus muscle.

(A) Transverse gray-scale US on infra-umbilical region demonstrates a well-defined inhomogeneous hypoechoic mass in right rectus muscle with no internal flow on color Doppler examination. (B) Non-contrast axial CT shows hyperdense mass at right rectus muscle (yellow arrow)

Diagnosis: … Right rectus sheath hematoma

Conclusion

The current study concluded that:

- Ultrasound had high sensitivity and moderate diagnostic accuracy in evaluating abdominal wall masses.
- Ultrasound may limit the patient's exposure to invasive biopsies and to the hazardous exposure to ionizing radiation and contrast media administration like that in the CT examination.