

ACCURACY OF ULTRASONOGRAPHY IN DIAGNOSIS OF PELVIC TUMOURS

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SUMMARY

Forty five patients with a clinical diagnosis of pelvic tumour were subjected to ultrasonography. The accuracy of clinical and sonographic diagnosis was determined by correlating the findings with histopathology. Clinical and ultrasound diagnosis was well correlated with histopathology in fibroids and ovarian tumours but could not be well correlated with tubo-ovarian masses.

Introduction

With the introduction of ultrasonography in the field of gynaecology, diagnosis of many pathological problems is no longer a difficulty. Accurate diagnosis of pelvic tumours forms a diagnostic challenge to the gynaecologist. Ultrasonography proves to be an important non-invasive diagnostic aid in this situation.

The purpose of our study is to find out the accuracy of ultrasonography in diagnosing pelvic tumours.

Material and Methods

Forty five patients with a clinical diagnosis of pelvic tumour were selected for the study and were subjected to ultrasonography. They were managed surgically and the specimens sent for histopathological examination. The clinical and ultrasonographic diagnosis was correlated with the histopathological diagnosis.

Results

Of the 45 patients 14 (31.1 per cent) were diagnosed to have fibroids while 23 (51.1 per cent) had ovarian tumour and 8 (17.8 per cent) had a tubo-ovarian mass.

Sixteen patients (35.6 per cent) were clinically diagnosed to have fibroids. On follow up with histopathology the clinical diagnosis of fibroids was found to be wrong in 2 patients (12.5 per cent). On the contrary ultrasound was totally accurate in diagnosing fibroids.

On clinical examination 20 patients were thought to have an ovarian tumour (6 solid and 14 cystic) (Table II). The clinical diagnosis was accurate with respect to solid tumours while the false positive rate in diagnosis of cystic ovarian tumours was 14.3 per cent (Table IV).

Of the 17 patients with cystic ovarian tumour on histology 16 were diagnosed by ultrasonography. All solid ovarian tumours were diagnosed on clinical and sonographic examination.

Although there were 8 patients with adnexal mass on histology, only 3 patients

TABLE I
Accuracy of Clinical and Ultrasound Diagnosis

Diagnosis	Clinical		Ultrasound	
	Correct	Wrong	Correct	Wrong
Fibroids	14 87.5%	2 12.5%	14 100%	0 0%
Ovarian Tumours				
(a) Solid	6 100%	0 0%	6 100%	0 0%
(b) Cystic	12 85.7%	2 14.3%	16 88.9%	2 11.2%
Tubo-Ovarian Mass	3 33.3%	6 66.7%	2 50%	2 50%
Normal Findings	—	—	—	1
Ectopic Pregnancy	—	—	—	1
Bicornuate Uterus	—	—	—	1

were correctly diagnosed to have tubo-ovarian mass clinically. In 6 patients clinical diagnosis of adnexal mass was wrong. On sonography 2 patients were correctly diagnosed to have tubo-ovarian mass and 6 patients were missed. In 3 patients of adnexal mass a wrong diagnosis was made on sonography 1 patient was diagnosed as ectopic pregnancy, the second as bicornuate uterus and the third was reported to have normal findings.

Thus in this study the accuracy of diagnosis by ultrasonography was 84.4 per cent with a false positive rate of 15.6 per cent.

Discussion

With the introduction of ultrasonography in the field of gynaecology diagnosis of pelvic tumours is considerably simplified. The introduction of real time and vaginal ultrasonography has further improved the accuracy.

Ultrasonography is an accurate method of determining the existence, size, location and consistency of pelvic masses. Thomas *et al* (1977) obtained an accuracy of 91 per cent, in diagnosis of pelvic tumours.

According to them the accuracy is maximum when the masses are over 2-3 cm in size.

The diagnostic accuracy improved when real time ultrasonography was simultaneously combined with digital per vaginal examination done by gynaecologist.

Walsh *et al* (1979) found that the accuracy of ultrasonography in diagnosis of gynaecologic masses ranged from 79 to 91 per cent. In their study of 204 patients ultrasound was diagnostic in 56 per cent while it was contributory in 23 per cent. They obtained a false negative rate of 4 per cent and a false positive diagnosis was made in 1 patient. In their study 22 of 34 patients (65 per cent) of fibroids were correctly diagnosed. Only 20 out of 36 (55 per cent) of ovarian cysts were correctly diagnosed.

In the present study the diagnostic accuracy was 84.4 per cent. Ultrasonography is a dependable non-invasive technique for diagnosing gynaecologic masses, however it does not preclude the necessity for a thorough pelvic examination.

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