

TRIAGING OF CERVICAL CANCER CASES USING ULTRASONOGRAPHY AND MAGNETIC RESONANCE IMAGING

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INTRODUCTION

Carcinoma of a cervix is the fourth most frequent gynaecological cancer and fourth most common cause of cancer-related mortality in women in the world. Its incidence was 0.6 million in 2022 with about 342,000 death.

According to recents guidelines Ultrasound imaging should be as part of the initial workup to establish the extent of the pelvic tumour and to guide treatment of cervical cancer patients. TV / TR completed with transabdominal ultrasound has the advantage of being readily available at low cost and performed by the treating gynaecologist compared MRI.

AIM OF THE WORK

The aim of this work was to determine the role of the ultrasonography and Magnetic Resonance Imaging in triaging of cervical cancer cases.

SUBJECTS AND METHODS

This study included 37 cervical cancer patients who consulted the oncology unit of the Obstetrics and Gynecology Department at Alexandria University at the Faculty of Medicine.

Inclusion criteria:

Confirmed histopathology of cervical cancer

Exclusion criteria:

History of radiotherapy for cervical cancer

It is a retrospective cohort study at El-Shatby University Hospital in the gynecological cancer unit, between October 2021 and July 2022.

After a physical and gynaecological examination under anesthesia, all patients underwent an invasive cervical cancer biopsy, which had previously been performed colposcopically.

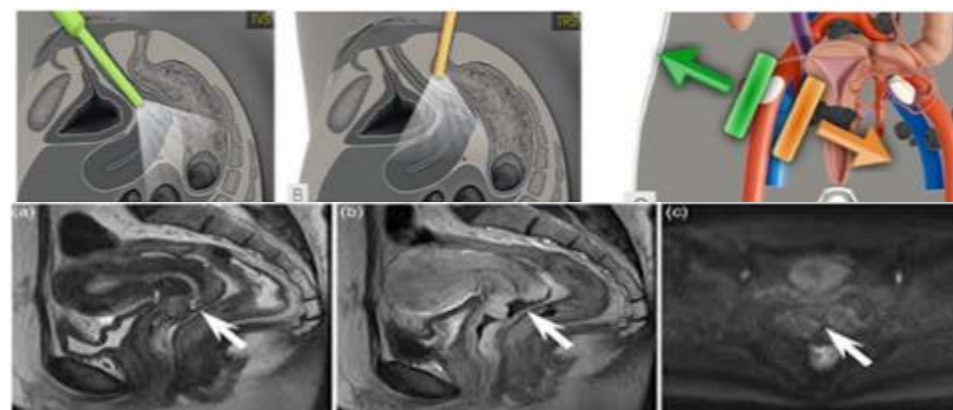
Patients were referred regardless of disease stage and had transabdominal, transvaginal, or transrectal ultrasounds, as well as an abdominopelvic MRI. In this study, we used MRI findings as the gold standard.

Medical Ethic Committee of Alexandria University's Faculty of Medicine approved the protocol.

The following data were gathered from the patient's records:

1. Patient identification:
2. Obstetric history: (Gestivity, Parity)
3. Chief complaint:
4. Comorbidities:
 - Diabetes/Hypertension/Cardiac disease/Breast disease/
 - Others
5. Histopatology
 - Squamous cell carcinoma (SCC)
 - Adenocarcinoma
6. Imaging modality :
 - Pelvic (Transvaginal / Transrectal) +abdominal ultrasound scan.
 - Abdominopelvic MRI
7. Others

RESULTS



Maximal tumor size	MRI findings		US findings		Level of agreement (κ)
	5.80 (4.50 – 6.80)		5.70 (4.50 – 6.4)		
Cervical stroma invasion	No	%	No	%	0.927 Excellent agreement
NO	2	5.4	0	0.0	0.669 Good agreement
<2/3	7	18.9	8	21.6	
3/3	28	75.7	29	78.4	
Vaginal invasion	No	%	No	%	0.777 Good agreement
NO	5	13.5	6	16.2	
Upper 1/3	10	27.0	6	16.2	
2/3	13	35.1	15	40.5	
Lower 1/3	9	24.3	10	27.0	0.456 Moderate agreement
Uteine body invasion	No	%	No	%	
No	18	48.6	14	37.8	
yes	19	51.4	23	62.2	0.576 Moderate agreement
Vesicovaginal septum invasion	No	%	No	%	
No	29	78.4	22	59.5	
yes	8	21.6	15	40.5	0.720 Good agreement
Retovaginal septum invasion	No	%	No	%	
No	30	81.1	31	83.8	
Yes	7	18.9	6	16.2	0.654 Good agreement
Parametrial invasion	No	%	No	%	
No	16	43.2	10	27.0	
Yes	21	56.8	27	73.0	0.532 Moderate agreement
Lymph nodes invasion	No	%	No	%	
No	26	56.8	20	54.1	
Pelvic LNS	9	24.32	12	32.4	
Both PLNS+PALNS	2	5.4	5	13.5	1.000 Very good agreement
Hydroneohrosis	No	%	No	%	
No	31	83.8	31	83.8	
Yes	6	16.2	6	16.2	1.000 Very good agreement
Local organ invasion	No	%	No	%	
No	34	91.9	34	91.9	
Bladder	2	5.4	2	5.4	
Rectum	1	2.7	1	2.7	

CONCLUSION

Ultrasound can be used for local staging of cervical cancer patients as a valuable method in the primary diagnostic work-up by examining tumour size, infiltration of the uterine body, vaginal walls, vesicovaginal septum, rectovaginal septum, parametrium, lymph nodes if it's done by a trained gynaecologist.