

Introduction

Ovarian cancer is the seventh most prevalent cancer among women worldwide and representing the second most common gynecological cancer and the leading cause of death of the female reproductive system cancers. Women often present with late-stage disease, in which 5-year survival rate of either 37% (stage III disease) or 25% (stage IV disease). Ovarian cancer is uncommon before the age of 40, but it rises sharply after that and peaks between the ages of 65 and 75. Its incidence and mortality rates, however, have been decreasing in recent decades, possible by the introduction of oral contraceptives, which, along with parity, are the best recognized protective factor for the disease. Late menopause and irregular menstrual cycles may also lower the risk, while the role of hormone replacement therapy in menopause and fertility treatments remains unknown.

Aim of the work

The aim of this study was to compare the diagnostic accuracy of ultrasound and CT for detecting pelvic and abdominal tumor spread in women with ovarian cancer.

Patients and Methods

- This cross sectional study was conducted at the Gynecologic Oncology Unit, on 124 women with clinical and radiographic suspicion of ovarian cancer in El-Shatby hospital, Faculty of Medicine, Alexandria University.
 - The study was conducted From October 2020 to August 2022.
 - For all patients ultrasound staging and CT staging were done and operative and histopathological findings were the gold standard.
1. Complete physical and gynecological examination
 2. CA125 serum level assessment.
 3. Ultrasound scan using the iota simple rules
 4. RMI calculation in all cases
 5. Ct staging
 6. Ultrasound staging

Results

Table 1: Diagnostic performance of Ultrasound and CT scan with operative and histopathological findings for different anatomical areas (n = 124)

	Sensitivity		Specificity	
	Ultrasound	CT scan	Ultrasound	CT scan
Pelvic peritoneum	69.23% (27/39)	64.10% (25/39)	90.59% (77/85)	90.59% (77/85)
Rectosigmoid	88.89% (16/18)	33.33% (6/18)	95.28% (101/106)	98.11% (104/106)
Pelvic LN	50.0% (9/18)	44.44% (8/18)	97.17% (103/106)	94.34% (100/106)
Small bowl	40.0% (2/5)	60.0% (3/5)	99.16% (118/119)	98.32% (117/119)
Major omentum	80.49% (33/41)	78.05% (32/41)	95.18% (79/83)	89.16% (74/83)
Upper abdomen peritoneum	70.37% (19/27)	62.96% (17/27)	97.94% (95/97)	90.72% (88/97)
Liver parenchyma	100.0% (2/2)	100.0% (2/2)	100.0% (122/122)	98.36% (120/122)
Spleen parenchyma	0.0% (0/1)	100.0% (1/1)	99.19% (122/123)	98.37% (121/123)
Root of mesentry	16.67% (1/6)	33.33% (2/6)	99.15% (117/118)	98.31% (116/118)
Paraaortic LN	21.05% (4/19)	42.11% (8/19)	99.05% (104/105)	85.71% (90/105)
Inferior vena cava LN	27.27% (3/11)	45.45% (5/11)	100.0% (113/113)	97.35% (110/113)
Pleura	100.0% (2/2)	100.0% (2/2)	99.18% (121/122)	96.72% (118/122)

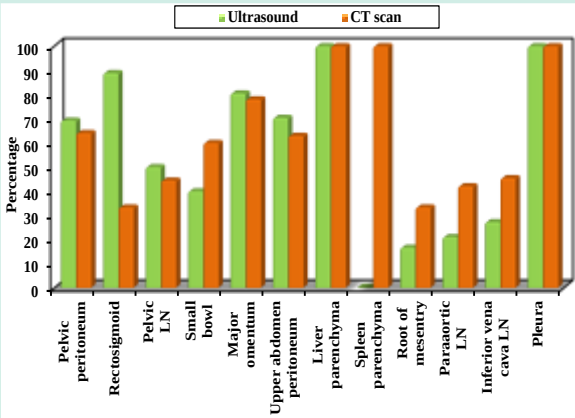


Figure 1: Ultrasound and CT scan with operative and histopathological findings for different anatomical areas in sensitivity.

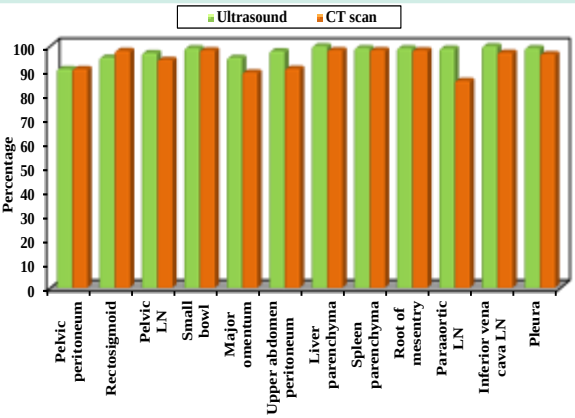


Figure 2: Ultrasound and CT scan with operative and histopathological findings for different anatomical areas in specificity.

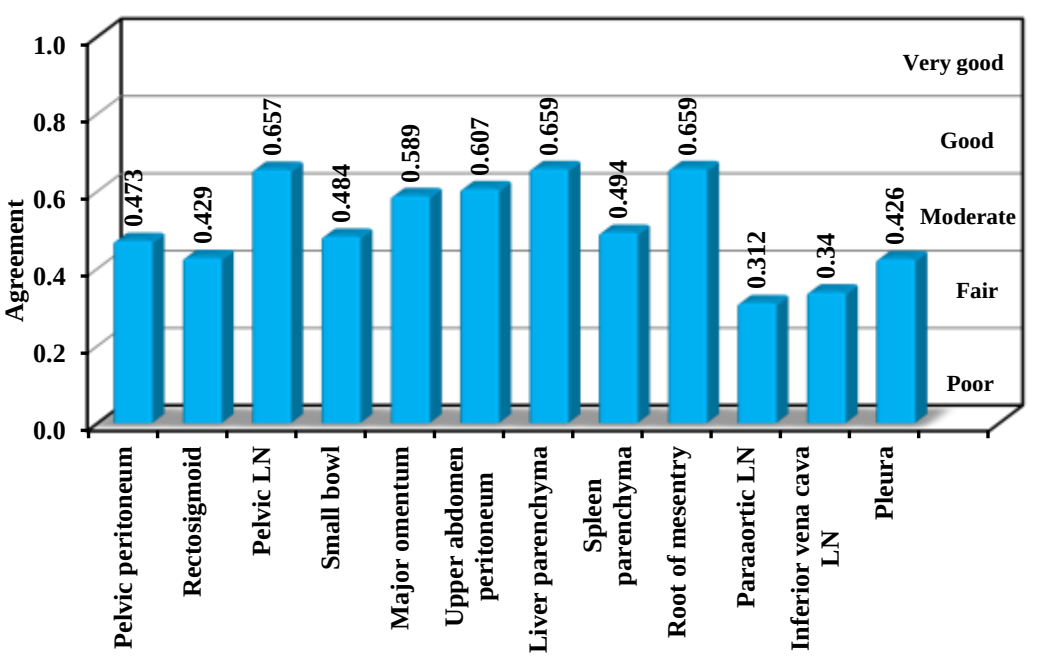


Figure 3: Agreement of CT scan and Ultrasound for different anatomical areas (n = 124) (% from total)

Conclusion

This study showed better diagnostic performance of ultrasound compared with CT in the assessment of peritoneal carcinomatosis in suspected ovarian cancer patients, and comparable performance of the two methods for lymph-node staging. In gynecological oncology centers with expert sonographers and high-end equipment, ultrasound can be used not only for ovarian mass characterization but also as a useful alternative to CT for ovarian cancer staging and prediction of non-resectability.