

EP13.18. Diagnostic performance of pro forma proposal for the diagnosis of placenta accreta spectrum

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Objective

- To evaluate the performance of a systematized method (pro forma) to describe findings of placenta accreta spectrum, in a prospective cohort in single tertiary referral center

Methods

- It is a prospective study carried out from November 2019 to December 2024, Voluson E8 ultrasound with a convex C 1-5D transducer transabdominal via, as recommended by the FIGO consensus guidelines. Parameters of Pro Forma were evaluated using 2D gray scale and color Doppler. The diagnosis of PAS was discarded when the placenta separated completely during delivery. Diagnosis of PAS was confirmed by pathology of the uterus after hysterectomy according to FIGO classification. A minimum power of 80% and the ability to detect a sensitivity between 0.80 and 0.90, based on a target significance level of 0.05 sample size of 113 patients

Results

- 233 patients, 161 with confirmed PAS and 72 patients without PAS. Details of performance are shown at table 1. We observed an overall sensitivity of 90.34 and specificity of 84.72. We found the best sensitivity as independent signs for Loss of Clear zone 88.82 (CI 95% 84.77-92.87), Abnormal placenta lacunae 87.58 (CI 95% 83.34 - 91.81) and myometrial thinning 81.37 (CI 95% 83.34-91.81), while the best specificity was for Bladder wall interruption and Uterovesical hypervascularity 94.44 (CI 95% 91.50, 97.39)

Conclusions

- The general performance of ultrasound for the diagnosis of PAS showed a high sensitivity and less, but very good specificity, results that seem better for detection rather than for confirmation. It's important to notice that particularly loss of clear zone and myometrial thinning alone had the better performance

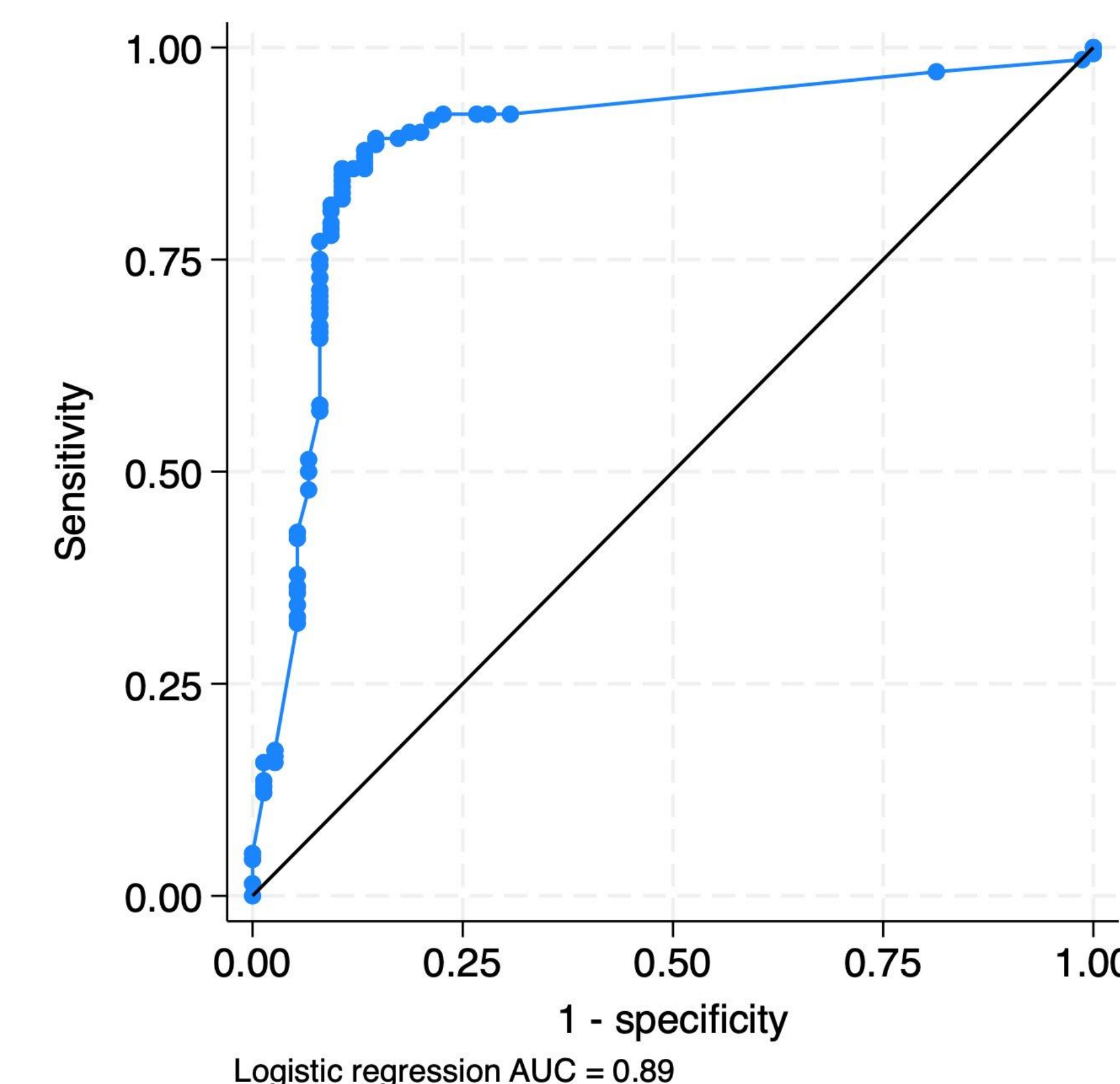


Table 1. Diagnostic performance for ultrasound PAS markers.

Ultrasound marker	Sensitivity 95% CI	Specificity 95% CI	Positive predictive value 95% CI	Negative predictive value 95% CI	Diagnostic odds ratio 95% CI
<i>Grayscale ultrasound parameters</i>					
Loss of clear zone	88.82 (84.77, 92.87)	84.72 (80.10, 89.34)	92.86 (89.55, 96.16)	77.22 (71.83, 82.60)	44.05 (19.64, 98.81)
Myometrial thinning	81.37 (76.37, 86.37)	87.50 (83.25, 91.75)	93.57 (90.42, 96.72)	67.74 (61.74, 73.74)	30.56 (13.69, 68.24)
Abnormal placenta lacunae	87.58 (83.34, 91.81)	63.89 (57.72, 70.06)	84.43 (79.78, 89.09)	69.70 (63.80, 75.60)	12.47 (6.37, 24.40)
Bladder wall interruption	45.96 (39.56, 52.36)	94.44 (91.50, 97.39)	94.87 (92.04, 97.70)	43.87 (37.50, 50.24)	14.45 (5.03, 41.52)
Placental bulge	46.58 (40.18, 52.99)	90.28 (86.47, 94.08)	91.46 (87.88, 95.05)	43.05 (36.69, 49.40)	8.09 (3.49, 18.73)
Focal exophytic mass	9.94 (6.10, 13.78)	100 (100, 100)	100 (100, 100)	33.18 (27.13, 39.23)	--
<i>Color Doppler ultrasound parameters</i>					
Uterovesical hypervascularity	54.04 (47.64, 60.44)	94.44 (91.50, 97.39)	95.60 (92.97, 98.24)	47.89 (41.47, 54.30)	19.98 (6.95, 57.39)
Subplacental hypervascularity	74.53 (68.94, 80.13)	88.89 (84.85, 92.92)	93.75 (90.64, 96.86)	60.95 (54.69, 67.22)	23.41 (10.35, 52.95)
Bridging vessels	77.64 (72.29, 82.99)	84.72 (80.10, 89.34)	91.91 (88.41, 95.41)	62.89 (56.68, 69.09)	19.25 (9.17, 40.41)
Placental lacunae feeder vessels	62.73 (56.52, 68.94)	88.89 (84.85, 92.92)	92.66 (89.31, 96.01)	51.61 (45.20, 58.03)	13.46 (6.04, 30.01)
<i>Parametrial involvement</i>					
Suspicion of invasion into parametrium	5.59 (2.64, 8.54)	98.61 (97.11, 100)	90.00 (86.15, 93.85)	31.84 (25.86, 37.82)	4.20 (0.52, 33.82)
<i>Overall</i>					
All ultrasound markers	90.34	84.72	92.25	81.33	--

CI = Confidence interval.

AUC including all the ultrasound markers: 0.90.