The diagnostic accuracy between the insulin-like growth factor binding protein-1 (IGFBP-1) immunoassay test and the Nitrazine test in detecting premature rupture of membranes

Nurul Atikah, Maisuri Tajuddin Chalid, Rina Previana Amiruddin

Department of Obstetrics and Gynecology, Faculty of Medicine, Hasanuddin University, Makassar, Indonesia

ABSTRACT

Introduction: Premature rupture of membranes (PROM) is the amniotic sac rupture before the onset of labour and accounts for one-third of all preterm births. Various diagnostic methods have been developed, including PAMG-1, IGFBP-1, and AFP, however not fully replaced the Nitrazine test, vaginal pH measurement, and the Phenol test. **Objectives:** This study aims to compare the diagnostic accuracy of the IGFBP-1 test with the Nitrazine test. **Materials and Methods:** This study is a multicenter research conducted in the cities of Makassar, Gowa, and Maros, using a comparative approach with a cross-sectional design on pregnant women with suspected PROM, examined using the IGFBP-1 test and the Nitrazine test. **Results:** Cases of PROM were more common among pregnant women aged 20-30 years (61%), those with multiparous pregnancies (46%), and at a gestational age of 28-32 weeks (71%). The Nitrazine test showed a sensitivity of 82%, specificity of 70%, positive predictive value (PPV) of 73.2%, and negative predictive value (NPV) of 79.5%. In comparison, the IGFBP-1 test had a sensitivity of 90%, specificity of 92%, PPV of 91.8%, and NPV of 90.2%. **Conclusion:** The IGFBP-1 test demonstrates superior diagnostic performance compared to the Nitrazine test, with higher sensitivity and specificity, as well as better PPV and NVP.