ABSTRACT

**Objective:** To compare the diagnostic accuracy of placental alpha micro-globulin-1 assay with standard methods (Nitrazine stick test and clinical pooling of amniotic fluid in the posterior fornx) for detecting rupture of fetal membranes.

**Study Design:** Prospective simple comparative diagnostic study.

**Setting:** The study was conducted in Central Hospital, Benin City, Nigeria between February 2015 to June 2015.

**Methods**

A three hundred and twenty patients at gestational age of 24 – 42 weeks with history, signs and symptoms suggestive of drainage of liquor were recruited after informed consent. Each patient was tested for rupture of fetal membranes using placental alpha microglobulin-1 immunoassay, Nitrazine stick and visual inspection of posterior fornix for liquor drainage to determine the accuracy of PAMG-1 compared with standard diagnostic tests. Individual patient had a pre-test questionnaire. The data generated were analysed using basic descriptive statistics.

**Main Outcome Measures**- Placental alpha **microglobulin** -1 immunoassay and standard diagnostic methods (Nitrazine stick and pooling of liquor) method of rupture of fetal membranes.
**Results** - A total of 320 patients were recruited. 280 out of 320 patients 87.5% had actual ruptured membranes, whereas 40 patients 15.5% had intact membranes. Placental alpha microglobulin-1 immunoassay had sensitivity of 99.2% specificity of 89.36%, positive predictive value of 95.45%. In Negative predictive of value 42.9% (6/14). In contrast, the conventional standard diagnostic methods (pooling, and Nitrazine test) confirms ROM with a sensitivity of 81.2% (125/154), specificity of 50% (3/6), positive predictive value of 97.7%(125/128) and negative predictive value of 9.4%(3/32).

**Conclusion** - The PAMG-1 immunoassay was a statistically better test in detecting ROM compared to the conventional standard diagnostic methods 94.8%(146/154) versus 81.2%(125/154) p< 0.000 Fisher’s test

**Key words:** Amnisure(R) Nitrazine, Pooling of liquor, rupture of fetal membrane accuracy.