Developmental dysplasia of hip (DDH) is a spectrum of disorders, including subluxation and dislocation, affecting proximal femur and acetabulum. If not diagnosed and treated in time, it can lead to severe disability/deformity. In the screening of neonates for DDH, clinical examination and hip ultrasonography (USG) are the two most frequently used methods. This, combined with the fact that breech presentation, which has a strong association with DDH, has a high incidence of 7% at 32 weeks of pregnancy in India (as of 2018) makes it a prerogative to establish a national screening protocol.

**OBJECTIVE**

To study the sensitivity and specificity of clinical examination for detection of DDH, with ultrasound as the reference standard, in order to establish a national screening protocol especially for breech presentations.
METHOD

Sample size = 75

Babies referred with risk factors of DDH from January to December 2017

Repeated Clinical Examination
- If positive: Included in study
- If negative but USG positive: Included

Repeated Ultrasound examination
- If positive: Included
- If negative: Excluded

Fig. 2: (A) Ortolani and (B) Barlow maneuver

Fig 3: Position for USG scanning in coronal and transverse planes
RESULTS

75 newborns were studied by clinical examination and USG (Graf’s method). 85.33% of these babies were born in breech presentation. 10 hips of 10 babies were diagnosed to have DDH based on USG, out of which, 8 were breech. Among these 10, 6 (all breech) had a clinical diagnosis of DDH. Hence, 4 babies (2 breech) went undiagnosed on clinical examination.
CONCLUSION

The sensitivity, specificity, Positive and Negative Predictive Value of clinical examination, considering USG as gold standard, was found to be 50%, 98.51%, 80% and 4.29%. Hence, despite the high specificity, the low sensitivity of clinical examination makes a strong case for the use of USG in neonatal hip screening for diagnosing DDH, at least in high risk cases such as breech presentation. A screening protocol was drawn up accordingly.

PROPOSED NATIONAL SCREENING PROTOCOL

THOROUGH ASSESSMENT OF EVERY BABY IRRESPECTIVE OF MODE OF DELIVERY

PRE-DETERMINED RISK FACTORS PRESENT

BREECH PRESENTATION

COMPULSORY USG

POSITIVE

TREAT AS DDH

NEGATIVE

FOLLOW-UP AFTER 2 WEEKS

PRE-DETERMINED RISK FACTORS ABSENT

FACTORS OTHER THAN BREECH PRESENTATION

CLINICAL EXAMINATION

POSITIVE

ROUTINE FOLLOW-UP

NEGATIVE

REFERENCES: