Associated risk factors in children who had late presentation of DDH

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Developmental dysplasia of the hip (DDH) .

A spectrum of disease

Unstable, Subluxed, Dislocated hips or Dysplastic acetabula

Klisic, JBJS(Br) 1989

Clinical examination
(Ortolani's and Barlow'stests)

Plays a considerable role in the diagnosis of unstable dislocated hips, in the first 3 m

But not in dysplasic hips (DDH) .

Hensinger, JPO 1995

Factors commonly associated with (DDH), after birth.

Female, First child, Family history, Frank breech, Fetal anomalies.

Important clinical finding over 3m

=Limitation of abduction of the hip,
=Galeazzi's sign,
=Asymmetry of the thigh & inguinal skin folds,
=Telescoping signs.

Ando, JPO.1990

Traditionally, radiological exam. has been used in Dx. of DDH.

In the last two 2 decades USS has been used as the best method in children <6m.

Gerscovich, Skeletal Radiol 1997.

Using USS →detected > cases,
→ > children being treated

Dezateux etal, Arch Dis Child. 2003

Unfavorable treatment outcomes have also been shown from R/ of unaffected children with a false +ve diagnosis

Roovers etal, Arch Dis Child. 2005.

A well-centered AP pelvic radiograph is a sensitive & useful technique for Dx & R/ of DDH in children >3 months .

Broughton etal, JBJS-B, 1989
O'Brien etal, Ir Med J. 1990

The purpose of our study.

To assess the role of
=Clinical exam. =Risk factors
=Plain pelvic radiograph

in the Dx of late referred DDH in young infants.

Centered AP pelvic radiograph was used as the final Dx method, as all cases presented above the age of 3m

1999-2006

370 Child diagnosed as(DDH),
581 Hips involved.

311 girls and 59 boys.
3-7m(3.44 m)

In Girls

40.5% (126) → Unilateral

59.5% (185) → Bilateral

In Boys

56% (33) → Unilateral

44% (26) → Bilateral.

Acetabular index angle is the most consistent radiographic parameter for assessment of DDH in children above 3 months old.

Scoles, etal JPO. 1987

30^0

The upper limit of normal.

Tachdjian's pediatric orthopedics (2002)
O'Brien etal Ir Med J 1990
Weintroub et al

All our cases had an AI angle of > 30^0.

Grades of dysplasia

=**Mild** → **AI angle** (30^0 – 34^0)

=**Moderate** → **AI angle** (35^0 – 39^0)

=**Severe** → > 39^0.

Total of 740 hips evaluated clinically & radiologically,

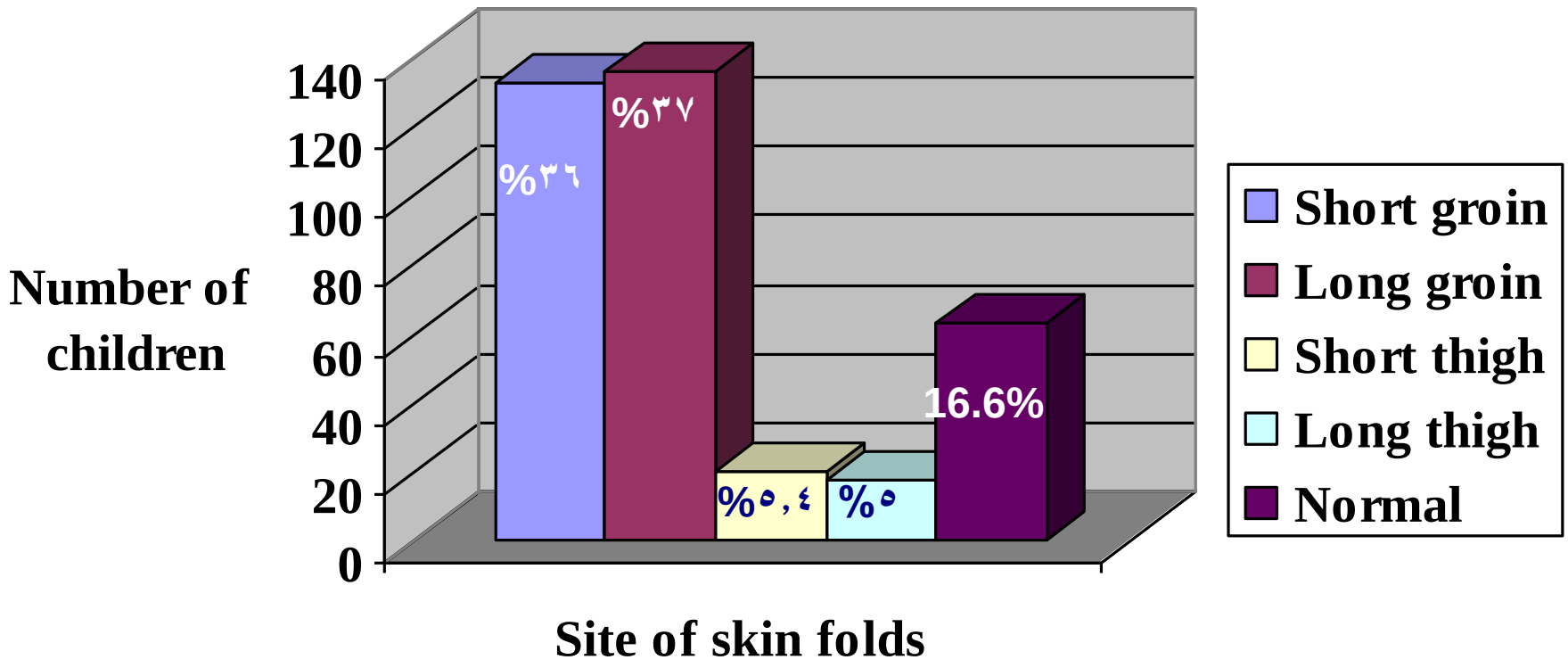
581 hips were confirmed to have DDH.

=71% were classified mild dysplasia
=21% moderate dysplasia
=7.9% severe dysplasia

	Associated risk factors	%
1-	Female	84.1%
2-	First child	34.3%
3-	Family history	28.4%
4-	Caesarian section	10 %
5-	Breech delivery	1.9%
6-	Breech +Caesarian	0.3%

	Clinical findings	
1-	Asymmetry of the skin folds	83%
2-	Limitation of hip abduction.	43.2%
3-	Facial asymmetry	4.6%
4-	Feet deformity	2.16%
5-	Torticollis	0.54%

Figure-1:Pattern of skin folds



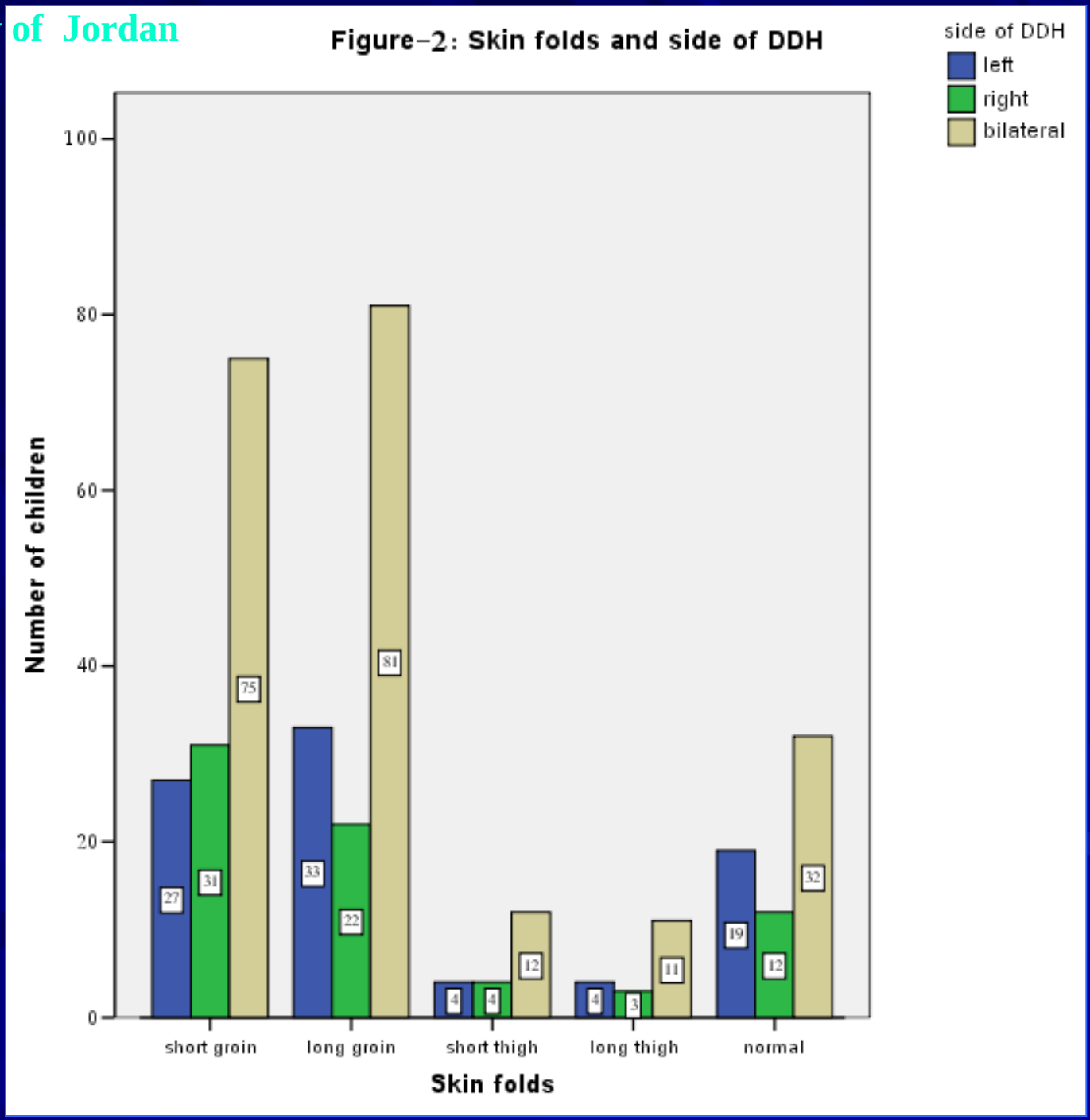
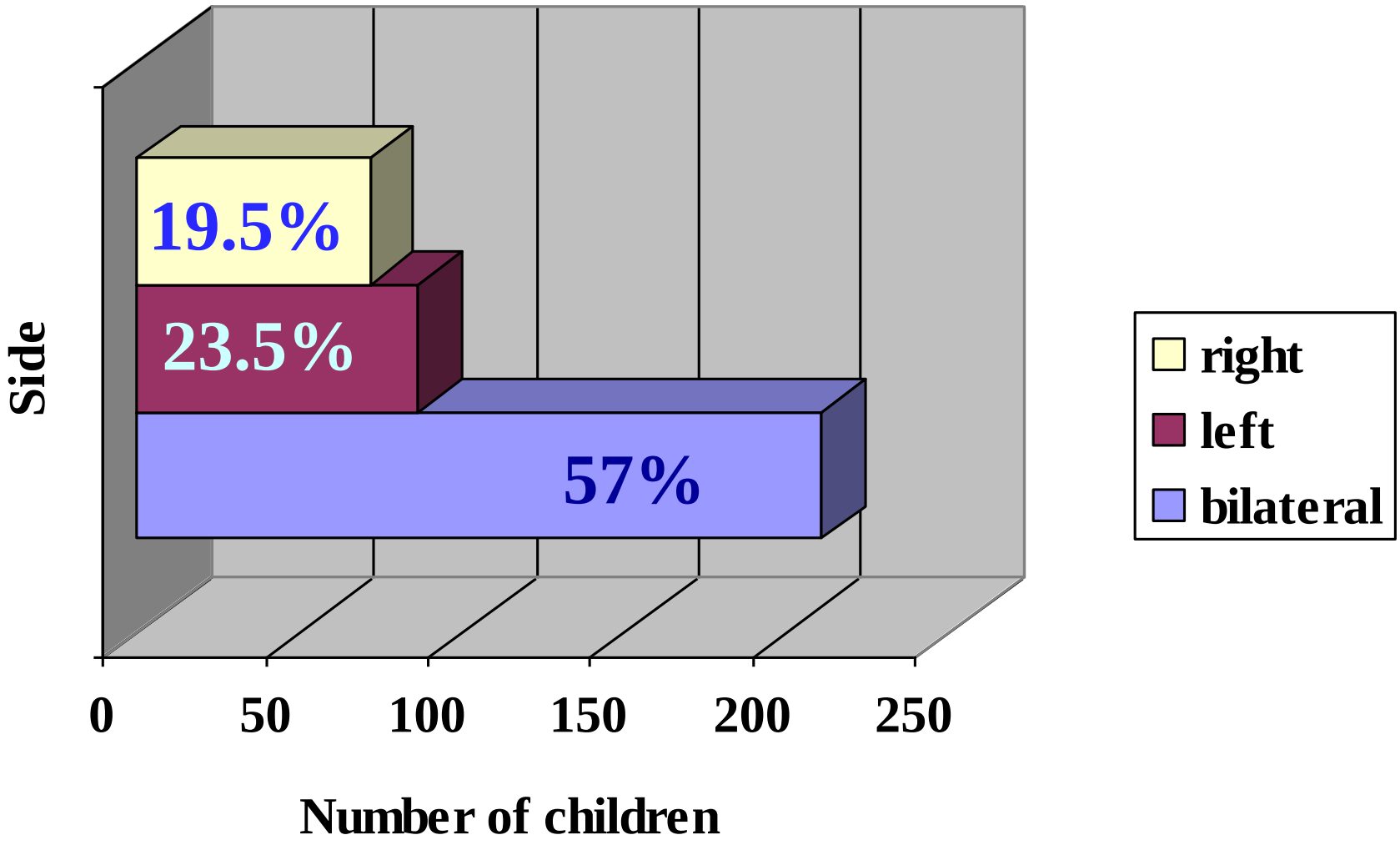


Figure-2: Skin folds and side of DDH
side of DDH
left
right
bilateral
Number of children
100
80
60
40
20
0
27
31
75
33
22
81
4
4
12
4
3
11
19
12
32
short groin
long groin
short thigh
long thigh
normal
Skin folds

Figure-4: Sidedness in DDH



1.37% positive Ortolani test.