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Outcomes of Surgical Intervention for Slipped Capital Femoral Epiphysis: A Prospective Study at BSMMU

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Keywords

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Abstract

Slipped Capital Femoral Epiphysis (SCFE) is a common hip disorder in adolescents, requiring timely surgical intervention to prevent complications. This study evaluates the outcomes of 30 patients treated at Bangabandhu Sheikh Mujib Medical University (BSMMU) between 2019 and 2021. A prospective interventional design was used to assess clinical and functional outcomes postoperatively.

Introduction

SCFE is characterized by displacement of the femoral head relative to the femoral neck through the physeal plate. The condition primarily affects adolescents and, if left untreated, can lead to avascular necrosis, chondrolysis, and osteoarthritis. Surgical intervention remains the gold standard for treatment. This study aims to evaluate the efficacy of surgical fixation methods employed at BSMMU and their clinical outcomes.

Methods

A prospective interventional study was conducted on 30 patients diagnosed with SCFE and treated surgically at BSMMU from January 2019 to December 2021. Patient demographics, clinical presentation, surgical technique, complications, and functional outcomes were recorded. Follow-up was conducted at 3, 6, and 12 months postoperatively. The primary outcome measure was the Harris Hip Score (HHS). Secondary outcomes included complication rates and radiological assessment.

Results

The following table summarizes the key findings:

Parameter	Value
Total Patients	30
Age (Mean ± SD)	12.5 ± 2.1 years
Gender (Male: Female)	20:10
Laterality (Left: Right)	18:12
Duration of Symptoms	4.3 ± 1.8 months
Type of SCFE	Stable: 22, Unstable: 8
Surgical Technique	In Situ Fixation: 25, Modified Dunn: 5
Follow-up Duration	12 months
Mean Pre-op HHS	52.4 ± 5.8
Mean Post-op HHS (12 mo)	89.2 ± 4.5
Complications	AVN: 2, Chondrolysis: 1, Implant Failure: 1
Revision Surgery	2 patients
Return to Daily Activity	85% of patients within 6 months

Fig: 1 X-Ray Pelvis Shows SCFE in Lt Hip

Fig: 2 Modified Dunn Procedure done on Rt Hip

Discussion

The study found that early surgical intervention led to significant improvement in functional outcomes, as reflected in HHS scores. In situ fixation was the preferred technique, demonstrating favorable outcomes in stable SCFE cases. The Modified Dunn procedure was used selectively for unstable SCFE but had a higher complication rate. The incidence of avascular necrosis (6.6%) and chondrolysis (3.3%) were within acceptable ranges compared to existing literature.

Conclusion

Surgical management of SCFE at BSMMU resulted in satisfactory functional outcomes with a low complication rate. Early diagnosis and timely intervention remain critical for optimal results. Long-term follow-up studies are needed to assess outcomes beyond one year.

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