



EFFICACY OF LOW MOLECULAR WEIGHT HEPARIN IN PREVENTING ADVERSE NEONATAL OUTCOMES BY INCREASING LIQUOR VOLUME IN ISOLATED SECOND THIRD TRIMESTER OLIGOHYDRAMNIOS

Hasina Sadiq, Shazia Fakhar, Filza Habib, Maria Aslam, Shafaq Fatima

INTRODUCTION

Oligohydramnios is relatively common pregnancy-related complication.

Its incidence varies from 0.5-1.5% of the population.

It is usually found to be associated with intrauterine growth retardation (IUGR) and various other chronic ailments.

Current Challenge:

In patients with oligohydramnios, the placenta has a dysfunctional flow.

Heparin helps to improve blood flow through the placenta hence liquor volume is substantially improved.

OBJECTIVE

To study the efficacy of LMWH in increasing AFI in isolated second and third trimester

oligohydramnios.

To study the feto-maternal outcomes including

- Gestational age at the time of diagnosis
- Gestational age at the time of delivery
- Mode of delivery
- Weight of baby at birth
- Apgar score
- NICU Admission
- APH
- PIH/Preeclampsia

RESULTS

A total of 100 participants were included in the study.

•**Demographics:** The LMWH and control groups had similar mean ages (28.48 vs. 29.10 years). Most women in the LMWH group were primigravida, while the control group had more multipara, with earlier diagnosis in the LMWH group (32.2 vs. 33.74 weeks).

•**AFI:**

- The initial amniotic fluid index (AFI) was similar in both groups but by the final scan, the **LMWH group showed a significantly higher mean AFI** (8.962 ± 2.33 cm) compared to the control group (6.466 ± 2.48 cm)

•**No difference in maternal outcome**

Characteristics	Lmwh Group		Control Group		P Value
	Frequency	Percentage	Frequency	Percentage	
Mode Of Delivery					
LSCS	39	78.0	34	68.0	0.26
SVD	11	22.0	16	32.0	
Antepartum Bleeding (Aph)					
Yes	1	2.0	0	0	0.315
No	49	98.0	50	100.0	
HTN/ Preeclampsia					
Yes	1	2.0	4	8.0	0.169
No	49	98.0	46	92.0	

Table I :Comparison of maternal outcomes among two groups

• **Fetal outcomes:**

Birth weights were similar between the LMWH and control groups, with no significant difference. However, **APGAR scores at both 1 and 5 minutes were significantly higher in the LMWH group**. Other fetal outcomes—such as meconium presence, fetal distress, NICU admissions, and intrauterine death—showed no significant differences between the groups.

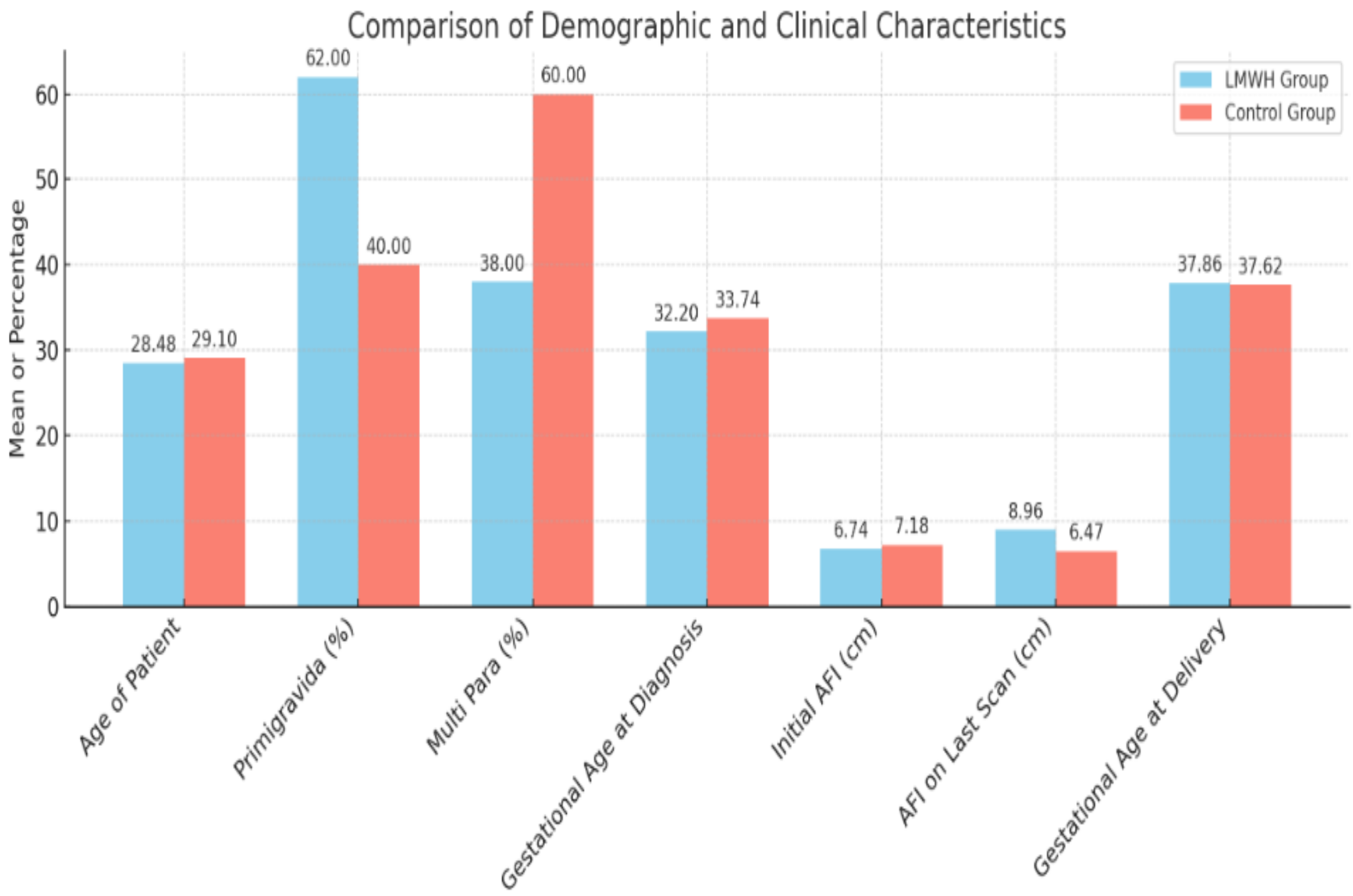


Figure: Distribution of demographic and other characteristics at presentation

Characteristics	LMWH Group		Control Group		p-value
	Frequency	Percentage	Frequency	Percentage	
Weight of Baby in Kgs					
Mean ± SD	2.70 ± 0.43		2.64 ± 0.44		0.51
APGAR Score at 1 Minute					
Mean ± SD	7.44 ± 0.675		7.40 ± 1.29		0.04
APGAR Score at 5 Minute					
Mean ± SD	8.36 ± 0.598		8.32 ± 1.41		0.04
Meconium					
Yes	1	2.0	2	4.0	0.558
No	49	98.0	48	96.0	
Fetal Distress					
Yes	9	18.0	7	14.0	0.532
No	41	82.0	42	84.0	
NICU Admission					
Yes	7	14.0	8	16.0	0.779
No	43	86.0	42	84.0	
Intrauterine Death					
Yes	0	0.0	2	4.0	0.153
No	50	100.0	48	96.0	

Table 3: Comparison of foetal outcome between both groups

METHODOLOGY

- Study Design:** Prospective, cross-sectional study.
- Setting:** Conducted at Shifa International Hospital and Shifa College of Medicine, **Islamabad, Pakistan**.
- Participants:**
 - Two groups were compared: Group A (receiving LMWH) and Group B (control), with 50 patients each.
 - Age: 18-40 years.
 - Trimester: second and third
 - Oligohydramnios: DVP < 2 cm and AFI < 8 cm
- Data Collection:**
 - Duration: 12 months.
 - Data Collected: **Group A (LMWH group)** patients already taking subcutaneous enoxaparin 40 mg daily and **Group B(control group)**as advised by consultant were included in study for observation and data collection.

Patients were monitored weekly for AFI and fortnightly for growth, and platelet counts until delivery. Primary outcome was improvement in AFI; secondary outcomes included gestational age at the time of diagnosis and delivery, liquor volume at the time of diagnosis and delivery, Apgar scores at birth, birth weight, NICU admission, APH and PIH or preeclampsia.

CONCLUSION

Heparin is a safe drug to be given in isolated second and third-trimester oligohydramnios patients which will help patients by increasing liquor volume. This will lead to improved APGAR scores at birth hence reduced perinatal morbidity and mortality.

•**Future Research:** Further studies are crucial to refine the effectiveness of heparin for routine implementation in clinical practice.