

EP10.23 Correlation of IL-6 level in amniotic fluid and risk of adverse perinatal outcomes in monochorionic twins after fetal laser surgery

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Introduction

Amniotic fluid IL-6 concentration is associated with adverse perinatal outcomes

- **The aim of our study (primary outcome):**
 - prediction of short intervention to delivery interval (≤ 14 days)
- **Secondary outcome:**
 - the risk of severe prematurity (≤ 28 GW)
 - adverse neonatal outcomes

Methods

- The **retrospective cohort** study (2012- 2023)
- The **AF sample for IL-6** was collected at the beginning of fetal surgery
- **Cervical length (CL)** was measured pre-surgery
- **152 MCDA**
 - **112 transfusion complications** (109 TTTS/3 TAPS)
 - 52 low-risk (**IL-6 < 400 ng/l**)
 - 14 high-risk (**IL-6 > 2000 ng/l**)
 - 46 intermediate-risk
 - **40 complicated by FGR** (37 TTTS +sFGR/3 FGR)

Results

Predicted event	Multivariate model (p-value)		
	Intervention to delivery < 2 weeks	Delivery < 28 GW	Adverse neonatal outcome
IL-6 + CL TTTS only	<0.001	<0.001	<0.001
IL-6 + CL TTTS/sFGR	0.196	0.686	0.990

Multivariate analysis utilizing logistic regression of AF IL-6 and CL in the prediction of complications in MCDA TTTS and TTTS complicated by sFGR

Character.	Overall N=112	Low risk N=52	High risk N= 14	P value	OR (95% CI)
Intervention to delivery < 2 weeks	13 (11.6%)	1 (1.9%)	3 (21.4%)	0.028	13.9 (1.3-146.6)
Delivery < 28 GW	27 (24.1%)	5 (9.6%)	7 (50%)	0.002	9.4 (2.3-38.0)
Adverse neonatal outcome	32 (33%) (N= 97)	10(20%) (N=50)	7 (63.6%) (N=11)	0.007	7 (1.7-28.7)

Correlation of AF IL-6 and risk of adverse perinatal outcomes (logistic regression analysis)

Conclusion

AF IL-6 levels are a reliable marker for predicting adverse perinatal outcomes after fetal laser surgery, showing a high negative predictive value. Further studies are needed to validate its clinical use.



Laser surgery TTTS.

Area Under the ROC Curve ^a	
Prediction based on IL-6 only	0.724
Prediction based on IL-6 and CL	0.829

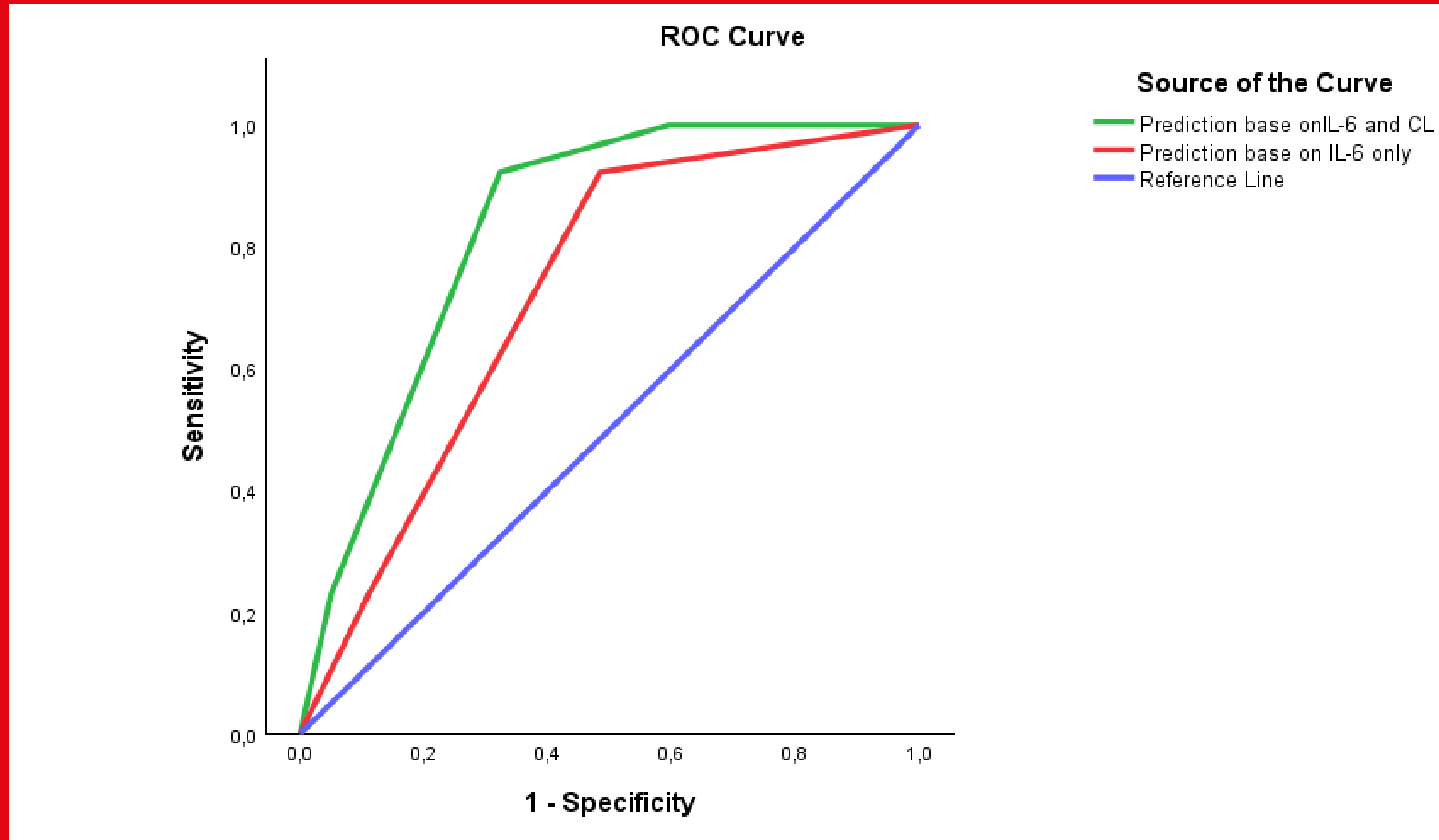


Figure 1. Prediction of short laser surgery-to-delivery interval