Cervical length and phosphorylated IGFBP-1 in prediction of preterm birth

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Objective

Preterm birth before completed 37th gestational week is extremely important clinical problem as it produces neonatal mortality and morbidity, as well as many negative short-term and long-term consequences to newborns, especially to the extremely preterm ones. The objective of our study was to determine the relationship between cervical length (CL), phosphorylated insulin-like growth factor binding protein-1 (phIGFBP-1) and spontaneous preterm births.

Methods

The number of recruited patients in a six-month-period was 58, with symptoms/complaints/signs suggestive of preterm birth. Consenting women were treated according to usual hospital protocol, with addition of vaginal swabs taken for phIGFBP-1. The outcome measured was the occurrence of preterm birth (PTB) within two weeks.

Results

62.07% of admitted patients (n=36) were delivered within two weeks from admission and our results indicate that the cervical length correlates with a positive phIGFBP-1 test i.e. patients with a positive test had an average cervical length of 18.5±4.63mm, which is significantly lower than patients with a negative test with average CL of 23.43±7.39mm (p=0.003). The odds ratio of preterm births with regards to positive phIGFBP-1 test was OR=3.5 (95% CI).
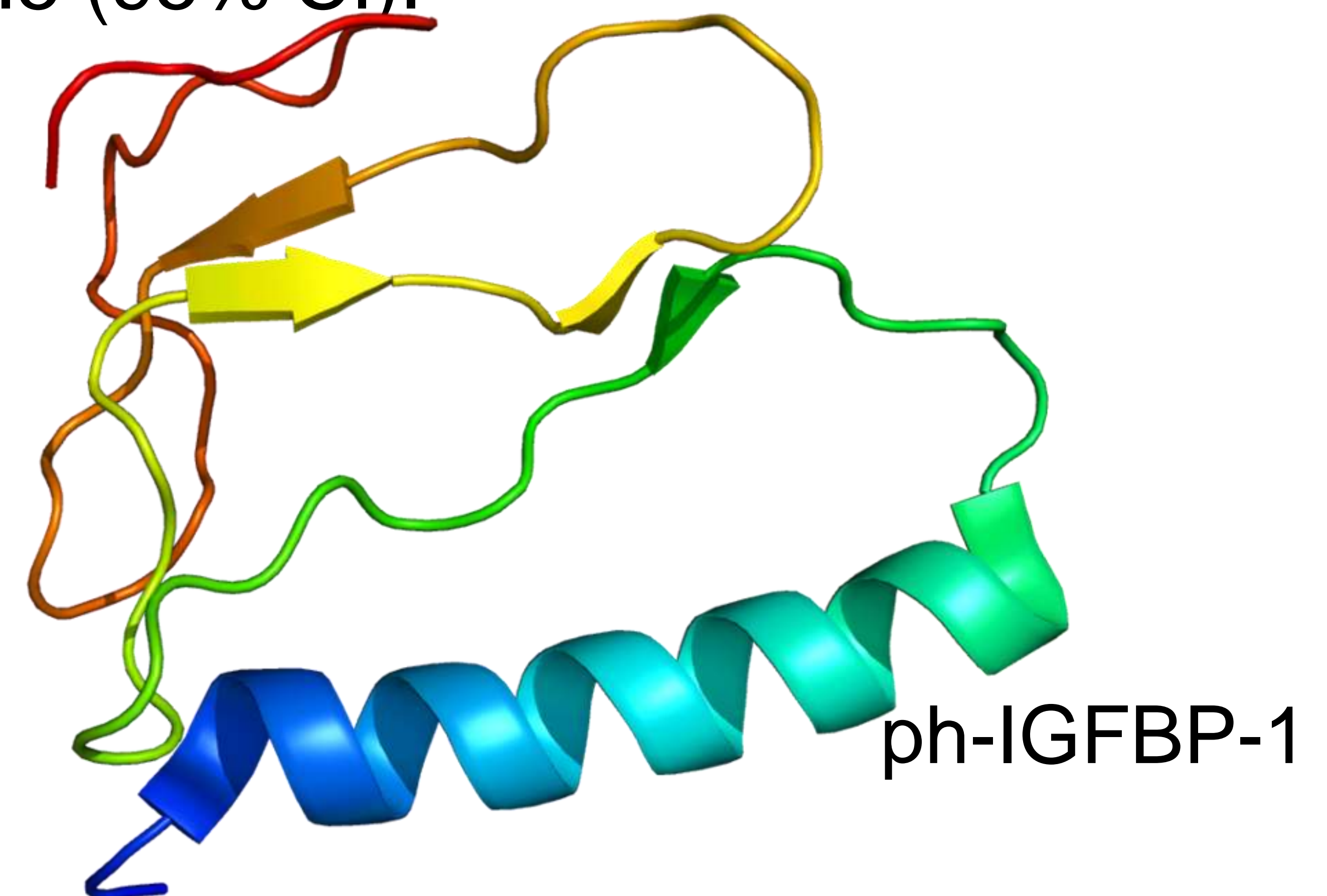

ph-IGFBP-1

Table.Test diagnostic performance in predicting PTB

Test	PPV	NPV	LR+	LR-	AUC-area under ROC curve	OR odds ratio (PTB)
Cervical length-CL	75%	54%	2.54	0.42	0.711	3.5
phIGFBP1	75%	54%	1.83	0.52	0.652	3.5

Conclusion

The studied biochemical marker was successful in moderation in predicting an outcome such as a preterm birth. However, further research is needed to commence common usage of this test in preventing preterm births.