

SERUM VASPIN CONCENTRATION IN FULL-TERM, APPROPRIATE-FOR-GESTATIONAL AGE NEWBORNS: EFFECT OF EARLY-ONSET INFECTIONS

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OBJECTIVES

- Vaspin is an adipokine consisted of 395 amino-acids encoded by OL-64 gene located on 14q32.13.
- Due to its insulin-sensitizing effect vaspin is the factor influencing fetal and neonatal development.
- Cord blood vaspin concentration is higher in SGA than AGA and LGA newborns that may be one of the adaptations for increased risk for adult metabolic diseases.

AIM OF THE STUDY

Evaluation of serum vaspin concentrations (SVC) in full-term, AGA severely infected and healthy ones newborns considering their gender, Apgar score, type of delivery and anthropometric parameters

METHODS

- SVC was determined in peripheral vein blood of 102 newborns with early-onset severe infection and 81 healthy controls, collected from 3rd to 7th day of life, between 8.00 and 9.00 AM, using ELISA test kit (*Bio Vendor Research and Diagnostic Products, Brno, Czech Republic*) in the Biochemical Laboratory of the University Hospital nr 1 in Zabrze, Poland

Early-onset infections involved:

- sepsis (n=24) – 17 due to Gram (+) and 7 due to Gram (-) bacteria
- congenital bilateral pneumonia (n=38)
- severe urinary tract infection (n=24)
- septic syndrome without bacteriemia (n=15)
- purulent meningitis (n=1)

Table 1. Clinical characteristics of two groups of newborns

Group	Gender	Parameter	Body weight [g]	Length [cm]	Head circ. [cm]	Chest circ. [cm]	Apgar score	
							>7	<7
Study [n=102]	M=71 F=31	25-75%	680	4.0	2.0	3.0	15	87
		Median	3310	54.0	33.5	33.0		
		Min-Max	2400-4280	49.0-61.0	30.0-38.0	27.0-39.0		
Control [n=81]	M=37 F=41	25-75%	500	3.0	2.0	3.0	0	81
		Median	3340	55.0	33.0	33.0		
		Min-Max	2540-4290	49.0-59.0	31.0-36.0	29.0-36.0		

RESULTS

Fig. 1 Comparison between median SVC values in infected and healthy newborns

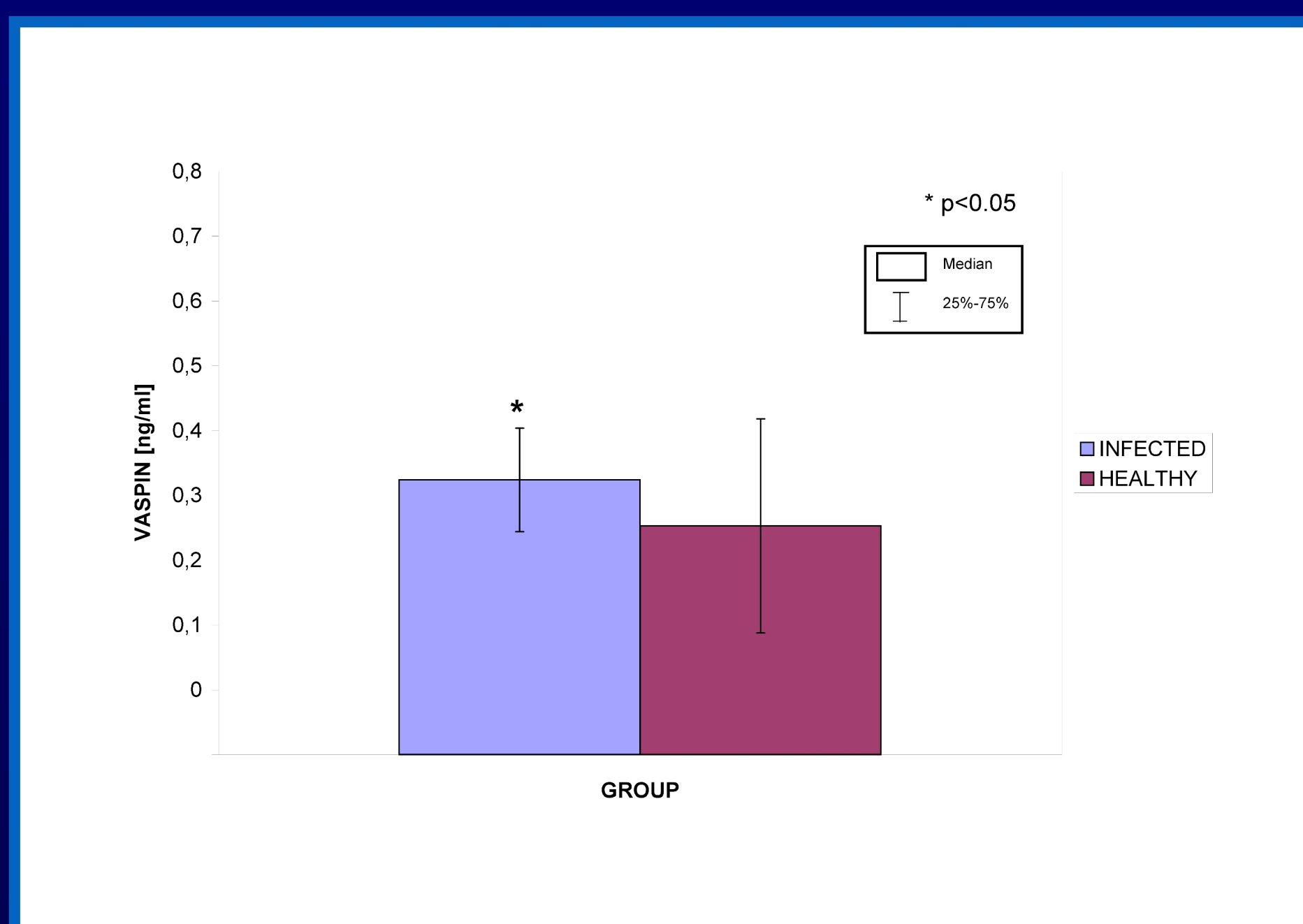


Fig. 2 Comparison between median SVC values in septic and locally infected newborns

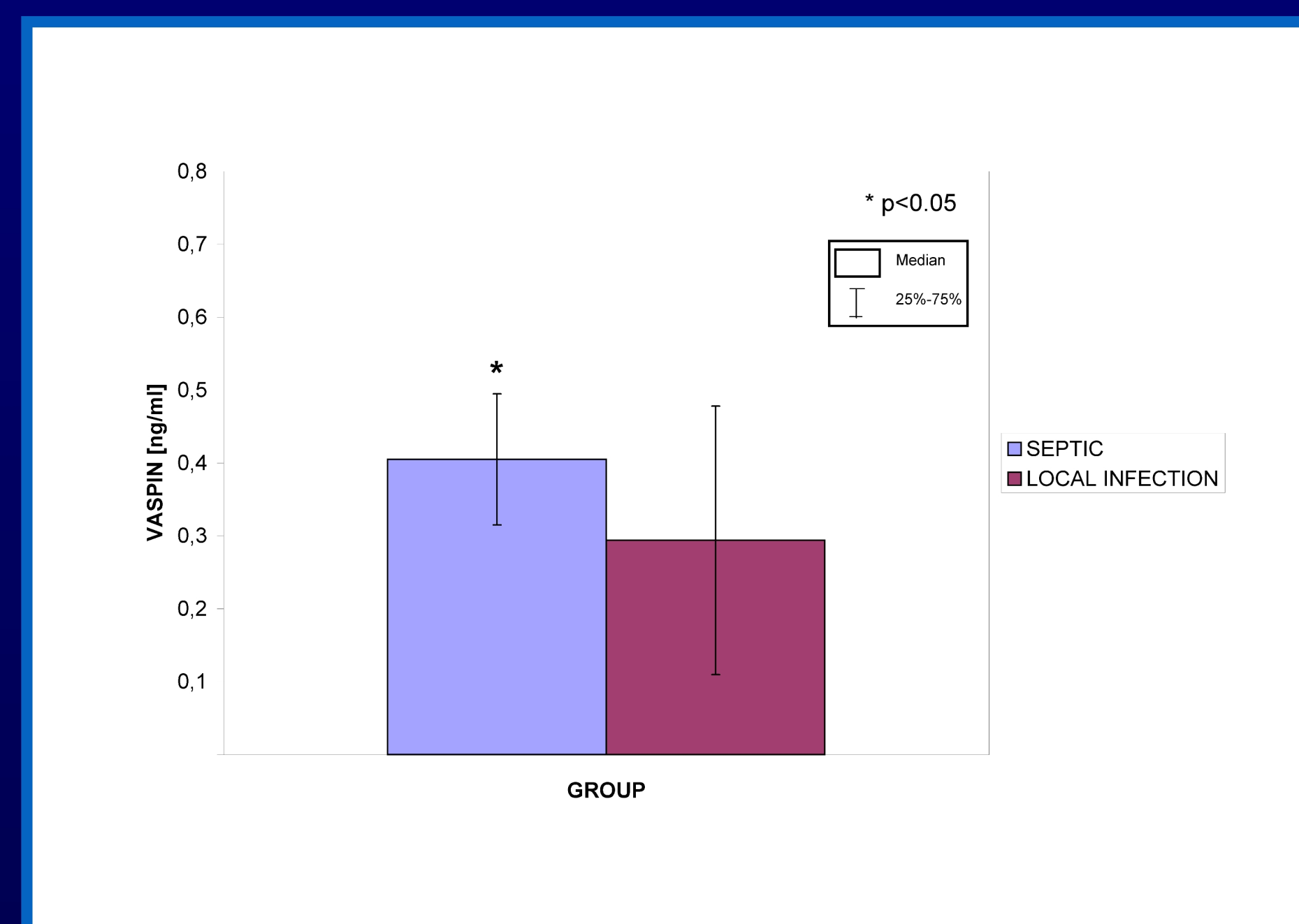
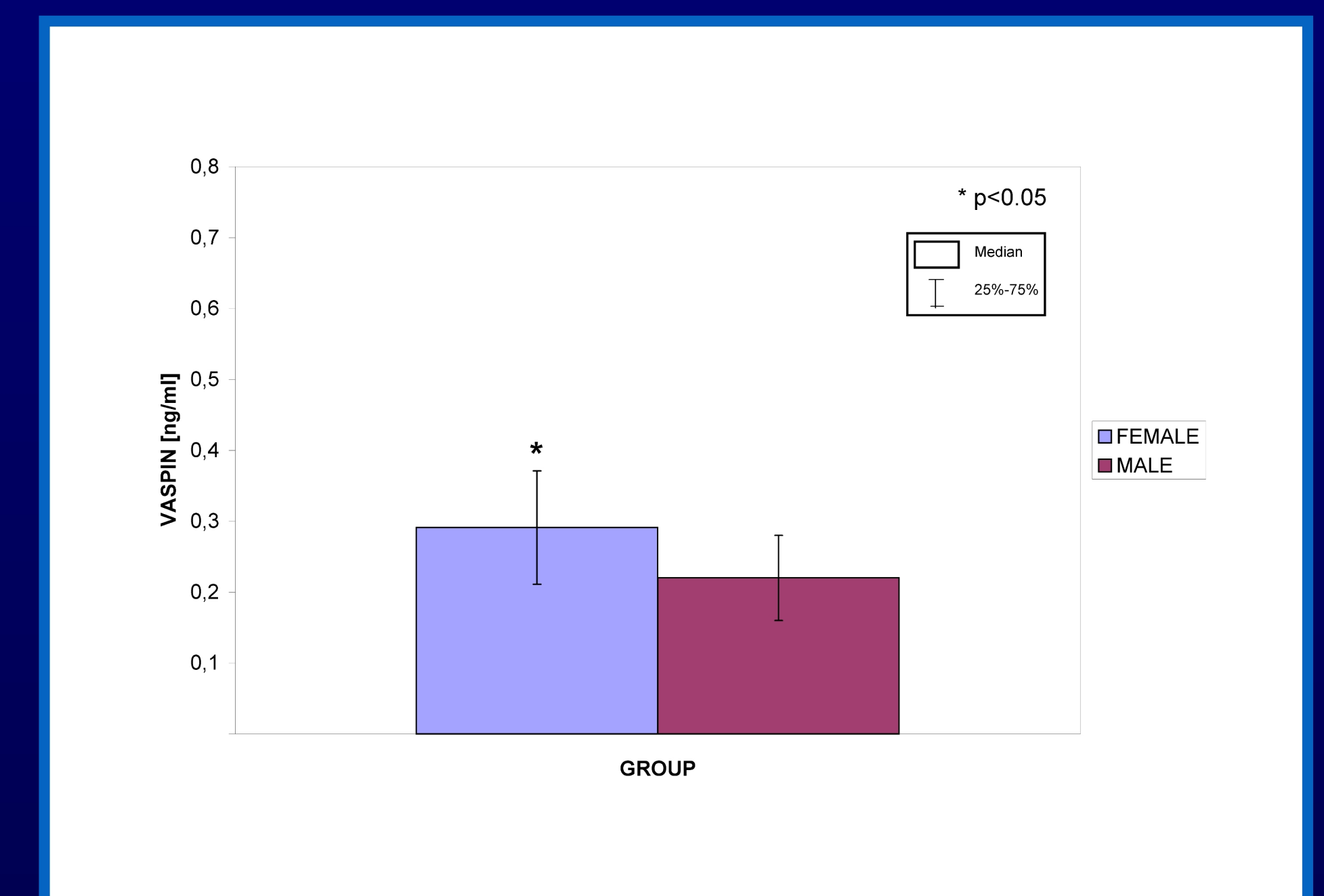


Fig. 3 Comparison between median SVC in healthy female and healthy male newborns



There were no significant differences in SVC between: infected male and female newborns; newborns born by cesarean section and vaginally

ANALYSIS OF CORRELATIONS

- We observed a significant negative correlation between SVC and the gestational age of infected newborns ($r=-0,24$; $p=0,015$)
- There were no significant correlations between:
 - SVC and body length, head and chest circumferences in both groups
 - SVC and Apgar score in 1st minute of life in infected newborns

CONCLUSION:

Early-onset infections, especially sepsis, increase SVC in full-term AGA newborns independently of their sex, birth asphyxia and type of delivery.

DISCLOSURE STATEMENT

Speaker's name: Małgorzata Stojewska

I have the following potential conflicts of interest to report:

Research Contracts Consulting Employment in the Industry Stockholder of a healthcare company Owner of a healthcare company Other(s)

I declare that I have no potential conflict of interest.