

Ganglioside antibodies associated to persisting symptoms after treatment of borreliosis (PSPT).

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INTRODUCTION & OBJECTIVES

Despite antibiotic treatment PSPT has been reported in 10 – 15% of LB patients.

In the present study we investigated the presence of anti-ganglioside antibodies (ganglioside-Abs) in sera from patients treated for borreliosis.

RESULTS

Description of data:

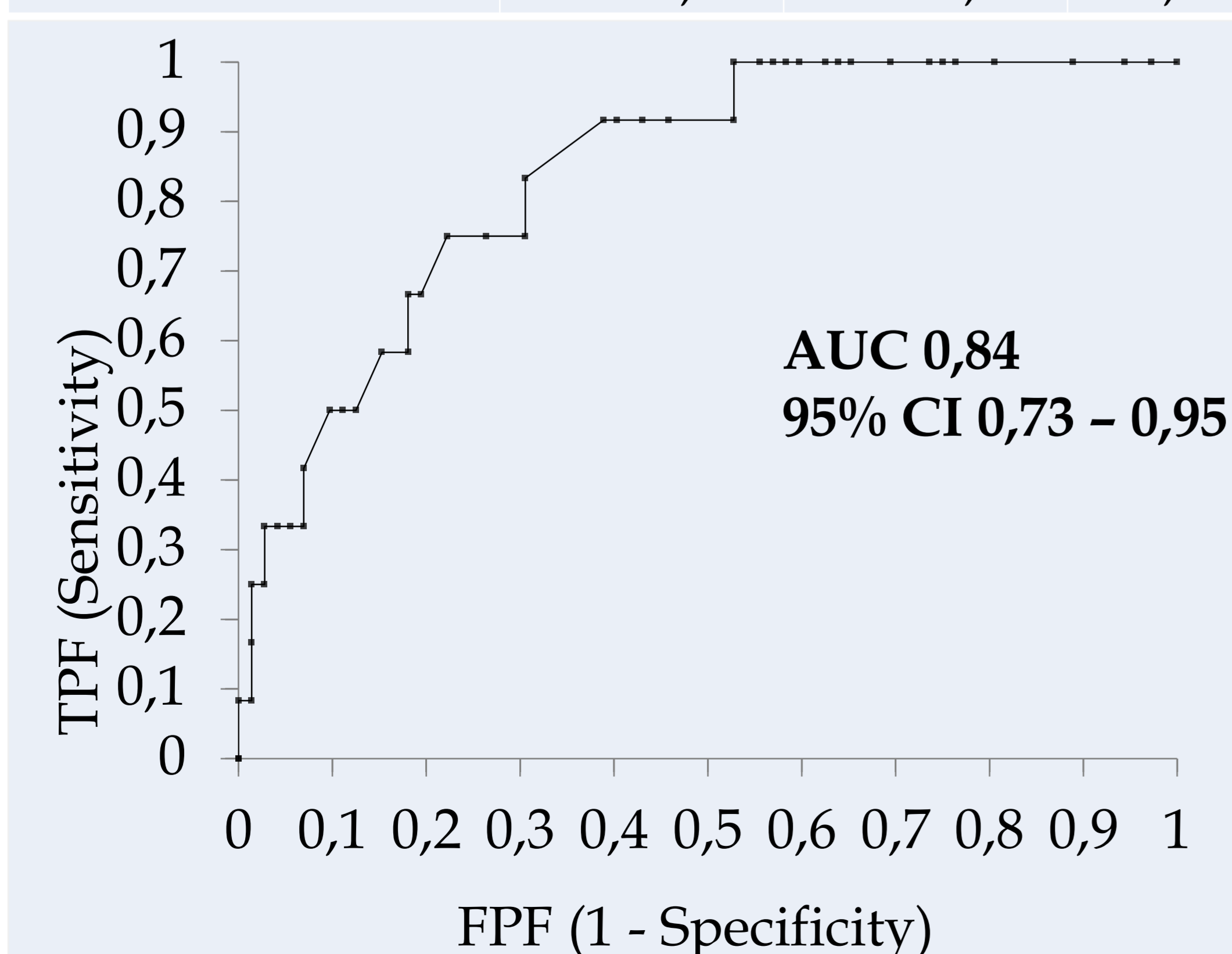
Clinical	N (%) of total	S-IgG-Ab + N (% of group)	Ganglioside Ab + N(% of group)
Total/Group	84 (100)	65 (77)	31 (37)
- Patients	72 (86)	65 (90)	26 (36)
- Treated LB	29 (36)	28 (97)	13 (45)
- Active LB	17 (20)	17 (100)	8 (47)
- EM	4 (5)	4 (100)	--
- NB	2 (2)	2 (100)	--
- Other	9 (11)	9 (100)	--
- PSPT	12 (14)	12 (100)	10 (83)
- Controls	12 (14)	0	5 (42)

Reactive ganglioside-Ab classes n :

- 12/84 PSPT: GA1 3, GM2 1, GD1a 4, GD1b 2, GQ1b 2
- 72/84 Not PSPT: GA1 7, GM1 5, GM2 2, GD1a 8, GD1b 10, GQ1b 2

Preliminary diagnostic performance of ganglioside-Ab for PSPT after LB:

Ganglioside-Ab	Proportion	95% CI
TP (Sensitivity)	0,833	0,552 to 0,953
TN (Specificity)	0,694	0,580 to 0,789
FP	0,306	0,211 to 0,420
FN	0,167	0,047 to 0,448
PPV	0,307	0,224 to 0,406
NPV	0,240	0,067 to 0,448
LR+	2,727	1,641 to 4,131
LR -	0,240	0,067 to 0,657



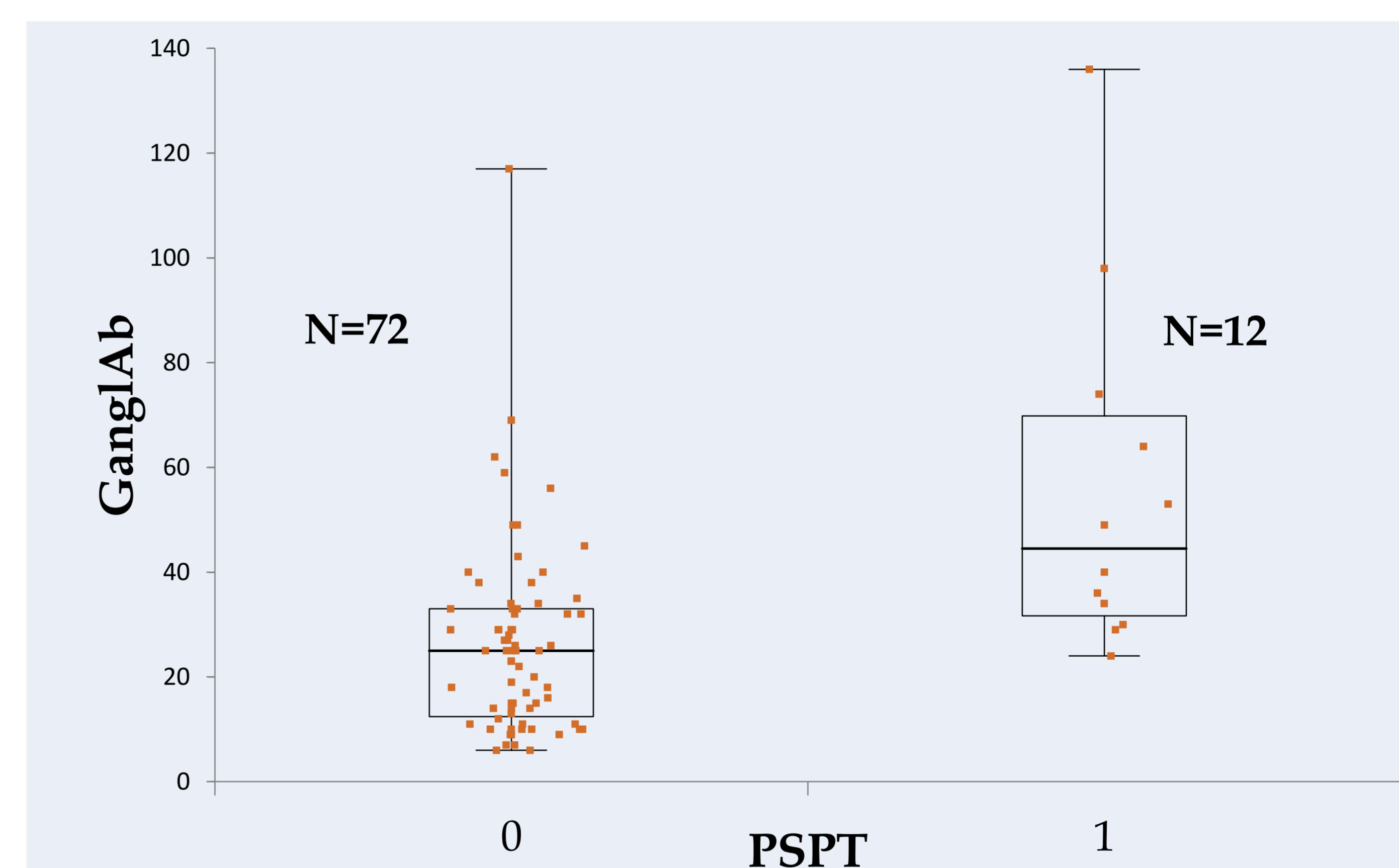
MATERIALS & METHODS

In 84 serum samples retrieved from the laboratory datasystem, 72 from patients evaluated for possible borreliosis and 12 seronegative controls, ganglioside-Abs were analysed by the GanglioCombi IgG/IgM ELISA, Bühlmann Laboratories AG, Switzerland.

Low (30 – 50 %) and clearly elevated titers (>50%) were considered positive for the calculations.

For borreliaspecific serology C6 Lyme ELISA, Immunitics, USA and multiplex bead-based immunoassay, recomBead IgG, Mikrogen, Germany, were applied.

Statistical parameters for ganglioside-Ab levels in PSPT vs. other patients and controls:



Significant association between ganglioside-Ab and PSPT

- Wilcoxon-Mann-Whitney $p = 0.0002$ for medians
- Brown - Forsythe $p = 0.0224$ for dispersions
- Fisher exact $p = 0.0006$, OR 11.8, 95% CI 2.34 - 119, for frequencies of positive ganglioside-Ab.

CONCLUSION

- An association between PSPT and presence of ganglioside-Ab may exist
- The pathogenetic relevance has to be studied

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