Biotelligences Fortnight *Issue 5 (September 23 2014)*

Summer posters: from Paris to Bern

As a continuation of our previous Biotelligences Fortnight, we would like to draw your attention to two further posters we saw in recent meetings. As before, we were mainly interested in statistical analysis and data display rather than experimental design, as posters often present preliminary results and not complete studies. The posters were selected for their level of biostatistics irrespective of their research field or scientific impact. The selection of just two posters was difficult, with several others of high quality, but these final two met most of our expectations. These posters were, never the less, missing some items (software used or alpha threshold for instance), but we also understand that space can be precious when creating a poster.

Kladi-Skandali A. et al. (University of Athens, Greece): *Quantitative expression analysis of the apoptotic gene BCL2L12 in breast cancer: association with clinical and molecular prognosis parameters.* (FEBS/EMBO meeting, Paris August 30 - September 4)

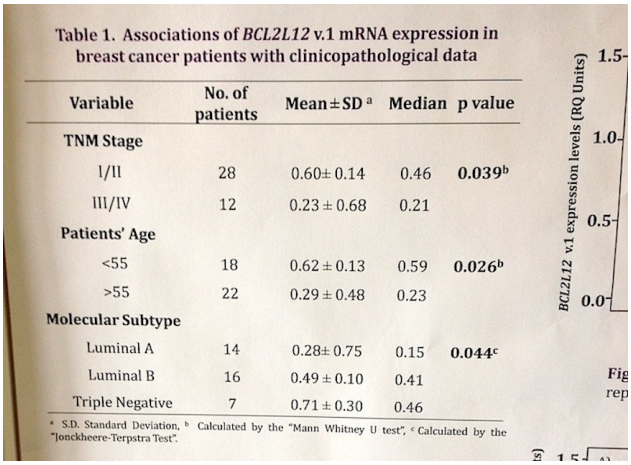
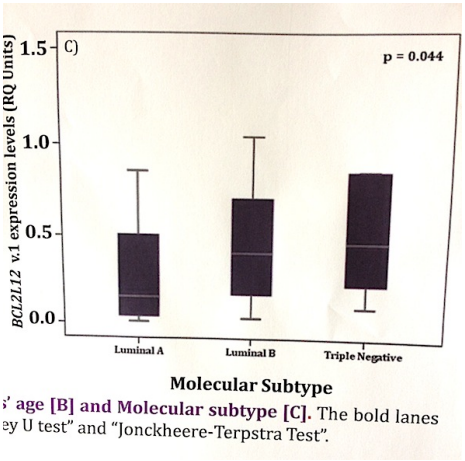


Table 1. Associations of *BCL2L12* v.1 mRNA expression in breast cancer patients with clinicopathological data

Variable	No. of patients	Mean ± SD [a]	Median	p value
TNM Stage				
I/II	28	0.60± 0.14	0.46	**0.039**[b]
III/IV	12	0.23 ± 0.68	0.21	
Patients' Age				
<55	18	0.62 ± 0.13	0.59	**0.026**[b]
>55	22	0.29 ± 0.48	0.23	
Molecular Subtype				
Luminal A	14	0.28± 0.75	0.15	**0.044**[c]
Luminal B	16	0.49 ± 0.10	0.41	
Triple Negative	7	0.71 ± 0.30	0.46	

[a] S.D. Standard Deviation, [b] Calculated by the "Mann Whitney U test", [c] Calculated by the "Jonckheere-Terpstra Test".

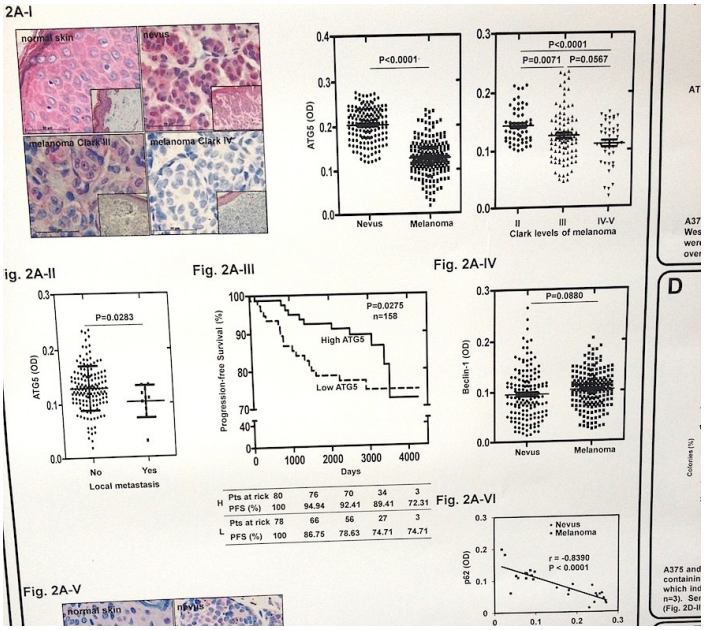
The analysis and data presentation in this poster were outstanding. Exact p-values were given (even in the abstract in the meeting's booklet) and statistical tests were clearly disclosed (in particular non-parametric Mann-Whitney and Jonckheere-Terpstra tests). Box-plots graphs and standard deviations were used instead of the omnipresent bar graphs and standard errors. Even the statistical design was remarkable with relatively large sample sizes.



' age [B] and Molecular subtype [C]. The bold lanes
ey U test" and "Jonckheere-Terpstra Test".

Liu H. et al (University of Bern, Switzerland): *Epigenetic silencing of autophagy related protein 5 (ATG5) contributes to tumorigenesis in cutaneous melanoma.* (8th Swiss Apoptosis meeting, Bern September 10-12)

We particularly appreciated the graphical display with individual values. We also liked the presentation of exact p-values and sample sizes, which were often high (despite one or two figures). There was an example of unbalanced design (unequal sample sizes) for one figure and the test used was not presented in the poster.



Once again, the rules that must be respected in original articles should also be followed in posters. In particular:

DISCLOSURE State all statistical tests used, sample sizes, the software used, and the alpha threshold.

PRESENTATION Avoid the use of standard errors: display 95% Confidence Intervals or Standard Deviations instead. Finally, it is better to show the exact p-values when possible (this is not essential if you have multiple sub-figures or if you performed dozens of tests).

In conclusion, the above-presented posters are those that stood out due to their good quality biostatistics and we hope this Biotelligences Fortnight will be useful in the preparation of your own posters.

The Biotelligences team