

Introduction to Science

Test Example

Quality

- 1. Prof. Janega has 11 publications and each of them is cited at least 9 times. What is its h-index?
- H-index - Hirsch index
 - For scientists, magazines, trade unions ...
 - Number of h articles that have been cited at least h times
- 9
- Other answers: 9/11, H.INDEX = 1.22, according to web of science: h = 12

Quality

- 2. What h-index has Valkovič P. from our faculty according to Web of Science and Scopus (both databases)?
- H-index can be obtained from citation databases (WoS, Scopus)
 - They may vary slightly
 - They depend on search settings
 - They are affected by their self-citations
- Currently WoS: 15, Scopus: 14

Databases

- 3. Which database is the most important source of current knowledge in the field of biomedicine?

Databases/Quality

- 4. Which magazine has the highest Impact Factor in Oncology?
- Impact factor (IF)
 - Journal quality parameter
 - The ratio between the number of citations to articles in a given journal and the number of articles that a journal has published over a given period
 - In 2 years (5 years)
 - Journal Citation Reports
- CA: A Cancer Journal for Clinicians

Databases/Quality

- 5. What is the most cited article of prof. Daniela Ostatníková?
- Web of Science or Scopus - citation database
 - Search by author
 - Sort results by citation count
- Tomová A. et al.: Gastrointestinal microbiota in children with autism in Slovakia. *PHYSIOLOGY & BEHAVIOR* 138, 179-187, 2015

Databases

- 6. What is the impact factor (2017) of the World Journal of Gastroenterology.
- Journals that are monitored by databases have different IFs each year
- Journal Citation Report
- 3,3

Quality

- 7. In which quartile (in terms of impact factors) is the journal Blood?
- IFs can be used to compare journals within a single field
- But fields are very different in terms of number of journals
- Q1-Q4 quartiles
- Q1

Studies

- 8. Explain, what is a pre-clinical study.
- Studies are clinical and preclinical
- Clinical studies are conducted on humans/patients
- Prior to clinical studies, drugs must be tested in experimental animals
- Experimental animal study to test drug toxicity and efficacy prior to clinical trials

Searching

- 9. Prof. Mego, as the last author, and his colleagues conducted a study on the prognostic role of PD-L1 expressing lymphocytes that infiltrated the tumor.
In which journal is this article published?

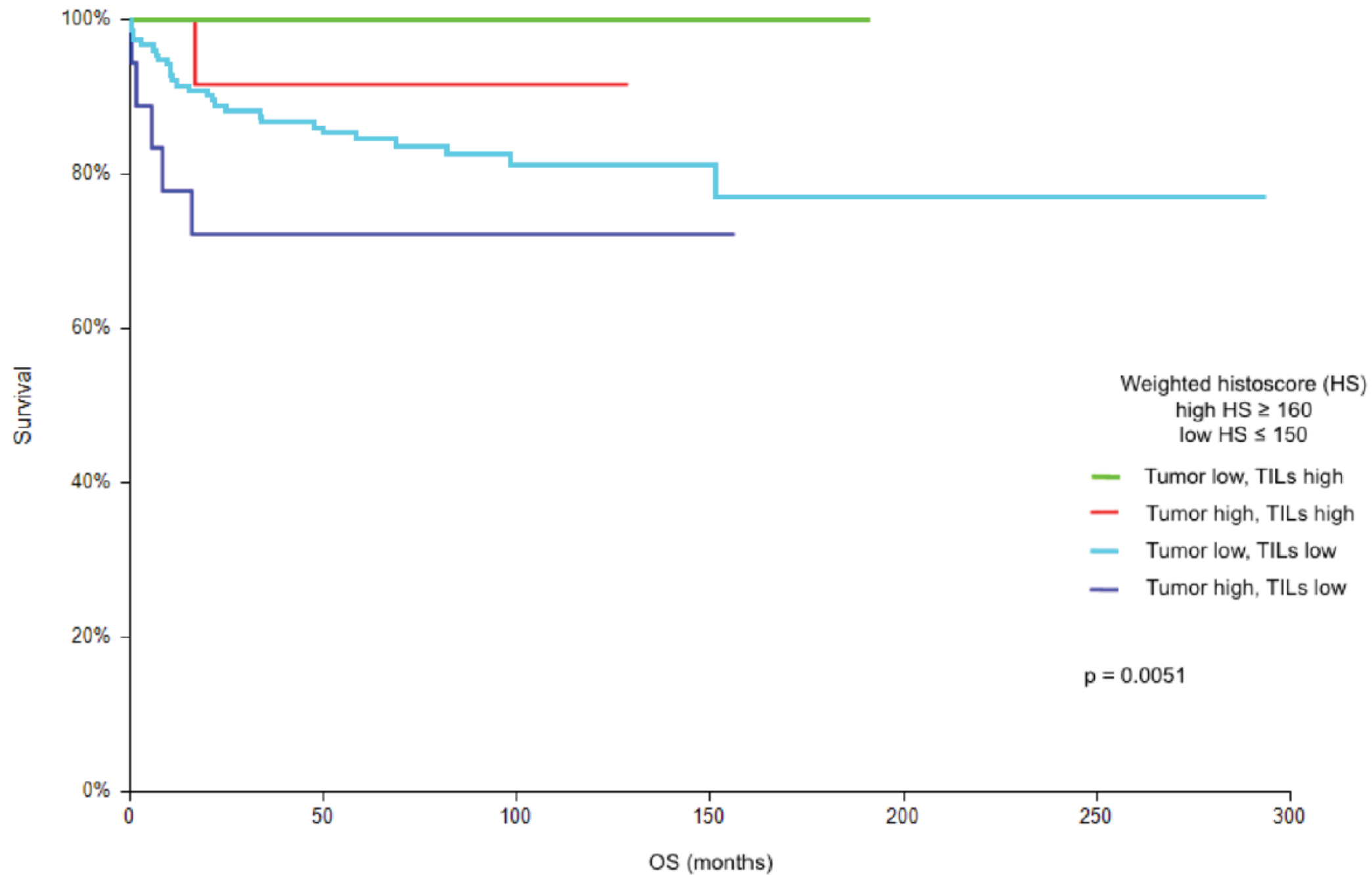
- PubMed
- Key words
 - Mego PD-L1
 - Article selection
- Oncotarget

Statistics

- 10. Prof. Mego, as the last author, and his colleagues conducted a study on the prognostic role of PD-L1 expressing lymphocytes that infiltrated the tumor.

Fig. 2B shows overall survival by tumor histology and tumor infiltrating lymphocyte (TILs) histological scores. What was the overall mortality of patients with high tumor scores and high TILS scores 100 months after diagnosis?

- A 10 %
- B 20 %
- C 90 %
- D 0 %



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Reading

- 11. Prof. Mego, as the last author, and his colleagues conducted a study on the prognostic role of PD-L1 expressing lymphocytes that infiltrated the tumor.
Where were tumor metastases most frequently located?
- Characteristics of patients in Methods or a separate table

Table 1: Patients' characteristics (n = 240)

	N = 240	%
Age (years)		
Median (range)		30,6 (16-67)
Histology		
Pure seminoma	57	23.8
Non-seminoma or mixed TGCTs	183	76.3
Primary tumor		
Gonadal	240	100.0
IGCCCG risk group		
Good risk	184	76.7
Intermediate risk	27	11.2
Poor risk	29	12.1
Sites of metastases		
Retroperitoneum	167	69.6
Mediastinum	27	11.3
Lungs	54	22.5
Liver	14	5.8
Other	35	14.6
Non-pulmonary visceral metastases	17	7.1

Statistics

- 12. A false positive result is when ...

Statistics

- 13. The population has a normal distribution when ...

Writing

- 14. In which part of the text of a scientific publication can the hypothesis of the research be found?
- Introduction, Methods, Results, Discussion
- IMRaD
- Introduction
 - Background, definitions, motivation, hypothesis, aim

EBM

- 15. For evidence-based medicine is valid...

Writing

- 16. What is the difference between the last author of a scientific article and other co-authors?

Clinical studies

- 17. What is the difference between an in vitro study and a clinical study?
- Clinical studies are studies on patients
- In vitro - in glass ...
 - In test tubes
 - On cells - cell lines
 - Ex vivo - on tissues taken from patients or experimental animals
- In vivo - in live ...
 - On model / experimental animals

Writing

- 18. Characterize original research article.
- Review article vs Original research
- Review
 - overview, a summary of the results that have been published on the topic
- Original research
 - contains unpublished results of new experiments and studies
 - Own new data and analysis
- IMRaD

Writing

- 19. What is the purpose of the discussion in research papers?
- A describes the methods used
- B describes all results
- C explains the rationale of the experiment
- D compares the experiment with similar experiments

Writing

- 19. What is the purpose of the discussion in research papers?
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- B describes all results
- C explains the rationale of the experiment
- D compares the experiment with similar experiments
- Discussion
Summary, comparison, significance, limitations, future outlook, conclusion

Statistics

- 20. Correlation analysis is used when ...
 - A we want to evaluate the relationship between two variables
 - B we want to find a difference between two groups
 - C when data were collected at different time points
 - D the relationship between the two variables is not causal

Course credit

- Classification at the end of the semester
- Evaluation in written – electronic form
 - 100 points
 - 50% to pass
 - A-E