Effect of a Learning Intervention for the PRETEXT Liver Staging System

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Introduction

- The PRETEXT (Pre-Treatment Extent of Tumor) radiologic staging system is a risk stratification system for hepatic tumors in children (1) that describes:
  - Tumor extent within the liver.
  - Associated features such as vascular involvement, extrahepatic disease, multifocality, tumor rupture, and metastatic disease.
- Surgeons use PRETEXT grading to determine operability and assist with surgical procedure selection.
- To improve use of this system among radiology faculty at the Children’s Hospital of Colorado (CHCO), a learning intervention was created to improve familiarity with this system.

Methods

- A 20-minute presentation was created that reviewed key elements of the PRETEXT radiologic staging system (Fig. 1). This PRETEXT educational presentation was presented over Zoom at a departmental body radiology subsection meeting.
- A multiple-choice pre-test (12 questions) and multiple-choice post-test (12 questions) were created to assess knowledge of the staging system.
- The experimental group took the pre-test within 1 day before the educational presentation, and took the post-test immediately after the presentation.
- The control group took the pre-test and post-test within a 1 week period, but did not view the presentation.
- Participants took these assessments anonymously using Poll Everywhere, logging in using a unique PIN.
- Results were analyzed using Linear Mixed Effects Modeling.

Results

- 19 participants took the pre-test or post-test assessments, with the group sizes as follows:
  - Exp. group: n = 12
  - Control group: n = 7
- Score differences between the pre-test and post-test (Fig. 2) were as follows (note: 1 point = 1 correct question):
  - Exp. group: +2.6 points (+21.7%) (p=0.001).
  - Control group: stayed the same (p=0.939).

Discussion

The statistically significant change for the experimental group between pre-test and post-test scores demonstrates the effectiveness of the learning intervention, especially given that there was no significant difference in these scores for the control group.

Conclusion

- An educational presentation on the PRETEXT radiologic staging system was an effective learning intervention.
- The improvement in radiological staging will assist surgeons in clinical decision-making.

References