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## **Interobserver agreement of endoscopic ultrasonography and endoscopic sonoelastography in the evaluation of lymph nodes**

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### **Introduction:**

There is a lack of studies on the interobserver variability of endoscopic ultrasonography (EUS) and especially endoscopic sonoelastography (ES). The aim of this study was to evaluate the interobserver agreement in the evaluation of a specific lymph node using EUS, ES, and ES strain ratio. The ES strain ratio was also used to differentiate between benign and malignant lymph nodes and the interobserver agreement was evaluated with the cytology as gold standard.

### **Patients and methods:**

This study prospectively enrolled 62 patients with upper gastrointestinal malignancies. One lymph node was evaluated per patient by two observers in randomized order. The second observer was blinded to the patient history and to the results of the first observer. EUS, ES, and ES strain ratio were performed under standardized conditions. Only one lymph node was excluded due to inadequate ES images. Thus, 61 lymph nodes were included in the analysis of the interobserver agreement.

### **Results**

ES evaluation was possible in 98 % of the patients and EUS in 100 %. Using EUS, ES, and an ES scoring system the kappa values were 0.80, 0.58, and 0.35 respectively. An ES strain ratio of 3.81 was defined as the cut-off value between benign and malignant lymph nodes using the cytology as gold standard (n=55). Using this modality a kappa value of 0.59 was obtained.

### **Conclusion**

ES and ES strain ratio evaluation of lymph nodes were feasible and may be reproduced with a good interobserver agreement in a blinded clinical setup. A predefined ES scoring system provided only poor interobserver agreement. ES strain ratio seemed promising but larger studies are needed evaluating this new feature.