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ORIGINAL ARTICLE

The Role of Endoscopic Ultrasound in the Diagnostic Assessment of Subepithelial Lesions of the Upper Gastrointestinal Tract

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Abstract
Introduction: The identification of subepithelial lesions is a relatively frequent finding at endoscopy however their natural history is not well known. Our aim was to analyze the role of endoscopic ultrasound (EUS) in the diagnostic approach of subepithelial lesions of the upper gastrointestinal tract.
Methods: Retrospective study which included 324 patients undergoing upper radial EUS for evaluation of subepithelial lesions from 2008 to 2014. The EUS features, presumptive diagnosis and management decision were analyzed.
Results: 324 patients included, 60% with gastric subepithelial lesions, 28% oesophageal and 12% from the duodenum. Based on EUS features the presumptive diagnosis was: 25% gastrointestinal stromal tumor, 21% lipoma, 19% leiomyoma, 17% pancreatic rest, 7% submucosa cysts, 1% granular cell tumors, 1% carcinoids, 1% mucosa lesions and 8% not defined. After EUS the suggested approach was no follow-up in 45%, follow-up with re-examination with EUS in 35% and additional tissue sampling or endoscopic/surgical resection in 20%. The latter was based on EUS features of risk at the diagnosis (53%), such as size $\geq$2 cm, hypoechogenicity, heterogeneity, lobulation, calcifications, cystic component and regional adenopathies; impossibility to define a presumptive diagnosis (39%) or EUS features change at follow-up (8%). The combination of multiple features correlated with a higher probability of this recommended strategy ($p < 0.001$), in 100% when 4 or more features were present. Among the 33 patients who underwent fine needle aspiration, in 66% the result was inconclusive. During follow-up, none of the patients who were managed with surveillance radial EUS presented complications.

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Conclusion: EUS is the method of choice in the study of subepithelial lesions of the upper gastrointestinal tract, in most cases defining a diagnosis. The need for a definitive diagnosis or therapeutic approaches can be based on ultrasound risk features, presented, in the majority, at presentation. This study shows that EUS is capable of safely and accurately define those subepithelial lesions that can be managed only with surveillance ultrasound while waiting for better results with fine needle aspiration.

PALAVRAS-CHAVE
Doenças Gastrointestinais/ultrassonografia;
Endossonografia;
Tracto Gastrointestinal/ultrassonografia;
Tumores do Estroma Gastrointestinal/ultrassonografia

Papel da Ultrassonografia Endoscópica na Abordagem Diagnóstica das Lesões Subepiteliais Altas

Resumo
Introdução: As lesões subepiteliais (LS) são achados frequentes, particularmente no trato digestivo alto. Incluem um grande número de entidades, algumas com potencial maligno, cuja história natural não é totalmente conhecida e o adequado manejo controverso. O nosso objetivo foi analisar o papel da ultrassonografia endoscópica (EUS) na abordagem diagnóstica das LS do trato digestivo alto.
Material: Estudo retrospetivo de doentes consecutivos submetidos a EUS alta para estudo diagnóstico de LS entre 2008-2014. Analisadas as características ultrassonográficas e a orientação definida.
Resultados: Incluídos 324 doentes, 60% com LS gástrica, 28% esofágica e 12% duodenal. O diagnóstico segundo as características ultrassonográficas foi: GIST 25%, lipoma 21%, leiomioma 19%, pâncreas ectópico 17%, quisto submucosa 7%, tumor células granulares 1%, carcinoide 1%, lesões da mucosa 1% e em 8% indefinido. A orientação proposta após EUS foi em 35% de vigilância e em 20% intervenção diagnóstica/terapêutica (punção aspirativa agulha fina - PAAF ou ressecção cirúrgica/endoscópica). Esta última por características EUS de agressividade no diagnóstico (53%), diagnóstico indefinido em EUS (39%) ou alterações de tamanho em EUS subsequentes (8%). As características EUS associadas significativamente à decisão de PAAF/ressecção foram: tamanho, hipoecogenicidade, heterogeneidade, bordos irregulares, calcificações, componente quístico e adenopatias. A associação de várias características associou-se a maior percentagem de doentes submetidos a esta abordagem ($p < 0,001$), em 100% quando 4 ou mais critérios. Nos 33 doentes submetidos a PAAF, em 66% o diagnóstico foi inconclusivo. Em todas as LSE orientadas para vigilância não se verificaram intercorrências neste período.
Conclusão: A EUS é o método de eleição no estudo das LS do trato digestivo alto, na maioria definindo um diagnóstico. A abordagem diagnóstica definitiva ou terapêutica, pode ser baseada na associação de características ultrassonográficas de agressividade, apresentadas na maioria logo no diagnóstico inicial. Foi demonstrada segurança nas LSE orientadas para vigilância e a necessidade de aguardar melhores resultados com PAAF.

1. Introduction

The identification of a mass covered by normal-appearing mucosa is a relatively frequent finding at endoscopy, approximately 0.3% of all upper GI endoscopies.[1–3] These masses, more correctly referred as subepithelial lesions (SL), can arise from within any layer of the gastrointestinal wall.[1] They occur more frequently in the stomach, but are also common in the esophagus and duodenum.[4] Common examples include gastrointestinal stromal tumor (GIST), leiomyoma, leiomyosarcoma, carcinoid, granular cell tumors, lipoma, pancreatic rest, schwannoma, etc.[5] The majority of subepithelial lesions are benign at the time of diagnosis, with fewer than 15% found to be malignant at presentation. However many of these lesions have the potential for malignant transformation.[6]

The differential diagnosis of these lesions is broad and ranges from clinically insignificant to malignant conditions, which underlines the importance of an accurate diagnosis. Endoscopy alone is not reliable for the definitive diagnosis of subepithelial lesions and frequently they are incidentally detected, not explaining the indication for endoscopic examination.[7]

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