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Case Report

EUS-Guided Micro-Forceps Biopsy for the Diagnosis of Lymphoma: A Case Series

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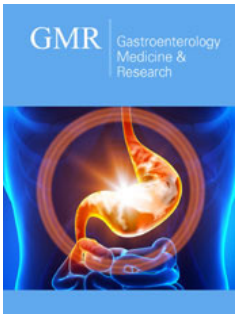

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Introduction

EUS-guided tissue acquisition has evolved into an effective endoscopic technique to diagnose lymphoma. Historically, EUS-guided fine needle aspiration (FNA) has been used with suboptimal diagnostic accuracy [1]. EUS-guided fine needle biopsy (FNB) with core specimen acquisition has subsequently emerged as a potentially superior diagnostic procedure [2]. More recently, the Moray micro-forceps device (U.S. Endoscopy, Mentor, Ohio), a through-the-needle biopsy forceps, has been approved for EUS-guided tissue acquisition of cystic lesions. In this case series, we explored the use of the micro-forceps to aid in the diagnosis of suspected lymphoma.

Patient 1

A 66-year-old man presented to the emergency department with a 2-week history of nausea/vomiting, dark urine and jaundice. Denied abdominal pain. Laboratory testing was significant for elevated alkaline phosphatase, liver enzymes and direct bilirubin. Computed tomography (CT) scan of the abdomen revealed a large retroperitoneal mass with periportal lymphadenopathy and biliary obstruction. The decision was made to proceed with EUS with FNB biopsy of the retroperitoneal mass as well as ERCP for biliary decompression. The micro forceps specimen demonstrated histologic and cytologic features of low-grade B-cell lymphoma.

Patient 2

A 37-year-old woman with a 3-month history of abdominal pain and malaise. Laboratory testing was significant for pancytopenia. CT scan of the abdomen revealed splenomegaly with perigastric and mesenteric adenopathy. The decision was made to proceed with EUS-FNB with micro-forceps biopsy. EUS revealed a 30 mm hypoechoic perigastric mass. FNB revealed cytological and histologic features consistent with low-grade small B-cell lymphoma.

Patient 3

A 59-year-old man presented to the emergency department with a 2-week history of jaundice, pruritus, acholic stools, dark urine, and weight loss. Laboratory testing was significant for elevated alkaline phosphatase, liver enzymes, and direct bilirubin. CT scan of the abdomen revealed multiple large periportal lymph nodes with associated biliary obstruction. EUS revealed multiple hypo-echoic masses in the periportal region. The micro-forceps specimen revealed histologic and cytologic features consistent with small B-cell lymphoma.

Patient 4

A 67-year-old man presented to the emergency department with a month history of intermittent, periumbilical, and left upper quadrant abdominal pain and more than twenty-pound weight loss over the same time. Complete blood count significant for leucocytosis with lymphocytic predominance. Bone marrow biopsy and peripheral flow cytometry was non

diagnostic but showed 71% abnormal cells positive for CD5, CD19, CD20, lambda and IgM consistent with a mature b-cell phenotype lymphoma. CT scan of the chest, abdomen and pelvis demonstrated marked splenomegaly with possible peripheral splenic infarcts and diffuse lymphadenopathy. EUS revealed multiple hypo-echoic masses in the subcarinal mediastinum. FNA revealed highly abnormal proliferation of lymphoid cells with mainly medium to large size lymphocytes. FNB with micro-forceps revealed cytological and histologic features consistent with mantle B-cell lymphoma.

Patient 5

A 73-year-old woman presented to the emergency department with a 3-month history of weakness, anorexia and unintentional weight loss. Complete blood count significant for lymphopenia. CT scan revealed splenomegaly with parenchymal infarcts and right azygoesophageal and gastrohepatic ligament lymphadenopathy. The decision was made to proceed with EUS with FNA and MFB. EUS revealed multiple hypo-echoic masses in the lower paraesophageal region. FNA revealed cytomorphological features of large B cell lymphoma. The micro-forceps specimen revealed histologic and cytologic features consistent with large B-cell lymphoma.

Discussion

In this case series, we observed that the Moray micro forceps device can be utilized successfully in the diagnosis of suspected lymphoma. We further observed that the use of a micro-forceps biopsy may provide suitable specimens to allow for specific histologic diagnoses. Comparative effectiveness studies between FNA, FNB, and micro forceps biopsy are warranted to determine whether the micro-forceps biopsy can serve an adjunctive role in EUS-guided diagnosis of lymphoma.

References

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