COMPARISON OF EUS-GUIDED TRUCUT WITH EUS-GUIDED FINE-NEEDLE ASPIRATION IN SUBEPITHELIAL TUMORS: PRELIMINARY RESULTS OF A PROSPECTIVE STUDY.

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Pathological diagnosis of subepithelial tumors is often not possible based on cytology alone.

Diagnosis of subepithelial tumors must be based on immunohistochemical analysis, that requieres a larger sample than cytological evaluation alone.

It has been suggested that a trucut needle would improve the diagnostic yield of EUS-guided puncture in this setting by providing a core tissue specimen.
AIM

To prospectively compare the diagnostic accuracy of EUS-guided trucut needly biopsy (EUS-TNB) with EUS-guided fine-needle aspiration (EUS-FNA) in the diagnosis of subepithelial tumors.
PATIENTS

Study population

Consecutive patients diagnosed of a subepithelial tumor sent for EUS evaluation

Inclusion criteria

• Diameter of the tumor $> 2$ cm
• Solid lesion
• Location in stomach
• Prothrombin time $>50\%$ and platelet count $>50,000$
METHODS

- Patient under conscious sedation.
- EUS-TNB and EUS-FNA of the same lesion (order randomly assigned).
- Needles: **19-gauge trucut biopsy needle and 22-gauge needle.**
- On-site cytopathologist:
  
  evaluation of EUS-FNA smear
  touch-prep
METHODS

• As many passes as necessary until a complete cylinder was identified (EUS-TNB) or until the cytopathologist informed that an adequate specimen was obtained (EUS-FNA)

• Maximum of three passes in both cases

• Diagnosis: based on cytology or histology and immunohistochemical determinations when appropriated
22-g needle for EUS-FNA
Tip of the 19-g trucut needle

- Cutting sheath
- 2 cm tissue tray
19-g trucut
for EUS-TNB

A

screw-stop lock
adjustment wheel

Spring-loaded mechanism

B

Firing position
Ultrasonographic appearance of a gastric subepithelial tumor
EUS-TCB of a gastric subepithelial tumor
Cytological smear: cluster of spindle cells in a fibrillar matrix. No nuclear atypia (Papanicolaou stain,x200)

Core tissue specimen: core of spindle cell proliferation (H&Ex40)
Immunohistochemical stain for c-kit in cell-block from EUS-FNA
## RESULTS

<table>
<thead>
<tr>
<th>location</th>
<th>Size (mm)</th>
<th>histology</th>
<th>immuno</th>
<th>passes</th>
<th>cytology</th>
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<td>-</td>
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</tbody>
</table>

**RESULTS**

- **EUS-TNB**: Average size: 58+61 mm, 37±27 mm, 1.5 ± 0.7
- **EUS-FNA**: Average size: 1.7 ± 0.8
## RESULTS

<table>
<thead>
<tr>
<th></th>
<th>EUS-TNB</th>
<th>EUS-FNA</th>
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<tbody>
<tr>
<td>DIAGNOSIS</td>
<td>7/10 (70%)</td>
<td>9/10 (90%)</td>
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<tr>
<td>C-KIT DETERMINATION</td>
<td>6/6 (100%)</td>
<td>5/9 (55%)</td>
</tr>
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</table>

P=NS  

P=NS
1. The diagnostic accuracy of EUS-TNB and EUS-FNA in subepithelial tumors is good and similar.

2. Determination of c-kit seems to be more feasible in the tissue specimen provided by EUS-TNB.

3. More patients have to be studied before taking definitive conclusions about final accuracy of the two techniques.