Osteomas were the most common benign tumors of the paranasal sinuses (60%). Endonasal endoscopic approach is chosen to remove osteomas of the frontal sinus and recess because its advantage of no external scars. However, this approach is still limited by the conditions and the need for experienced surgeons.

Therefore, we carried out this study with the aim of selecting the appropriate surgical path, gradually overcoming the external approaches prevents external scars, proceeding to endoscopic osteomas surgery to bring high therapeutic effects as well as aesthetic factors.

Materials and Methods
Non-randomized trial study

Results

- In 14 months (from January 2016 to August 2017), there were 34 patients with osteomas of the frontal sinus and recess. 67.65% osteomas was removed via endonasal endoscopic approach, in 32.35% of cases, a combine endoscopic and external approach (Jacques incision) was chosen.
- 88.24% osteomas was completely removed (52.95% by elevators and 35.29% by drills), 11.76% osteomas was not completely removed. In 35.29% of cases, the operation was navigation-assisted.
- 17.65% of cases had scarring and cicatrization of the frontal recess in first 4 weeks post-op. 11.76% of them was repaired successfully in clinic, 5.89% of them necessitated surgical revision. Intraoperatively, complication of injury to the lamina papyracea was observed in 1 case (2.94%) and bleeding from the anterior ethmoidal artery was observed in 1 case (2.94%), both are successfully controlled without severe consequences.

Table 1. Surgical procedure

<table>
<thead>
<tr>
<th>Surgical procedure</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draf I</td>
<td>13</td>
<td>38.23</td>
</tr>
<tr>
<td>Draf IIA</td>
<td>6</td>
<td>17.64</td>
</tr>
<tr>
<td>Draf II B</td>
<td>4</td>
<td>11.78</td>
</tr>
<tr>
<td>Combine endoscopic and external approach (Jacques)</td>
<td>11</td>
<td>32.35</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Results after surgery

<table>
<thead>
<tr>
<th>Result</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>21</td>
<td>61.77</td>
</tr>
<tr>
<td>Pretty good</td>
<td>3</td>
<td>8.82</td>
</tr>
<tr>
<td>Average</td>
<td>1</td>
<td>2.94</td>
</tr>
<tr>
<td>Not good</td>
<td>1</td>
<td>2.94</td>
</tr>
<tr>
<td>Not re-examined</td>
<td>8</td>
<td>23.53</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

Conclusion

The endoscopic approach advantageous over external approaches in osteomas of the frontal sinus and recess sinus that avoids external scars, loss of forehead sensation and makes the length of hospitalization shorter. It should be noted that not all the osteomas should be removed completely by endoscopic approach and the surgeon should stop at the right time. External approach is still helpful in managing frontal sinus diseases.