Brodie’s Syndrome

an orthodontic-orthopedic resolution in a growing patient

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What is the **Brodie’s Syndrome**?

The *scissor bite*, that is the transverse basal excess of one or both sides of the upper jaw related to the lower jaw, is a very rare abnormal condition typical of the Brodie Syndrome. It can be associated with a sagittal underdevelopment of the mandible.
Diagnosis

➢ Clinical examination
➢ Radiographic examination
➢ Intraoral clinical examination
➢ Examination of study models in maximum intercuspation and in Angle Class I canine and molar relationship
Brodie’s Syndrome

**Congenital Form**
- **Negativity** for previous orthodontic treatments
- Bilateral scissor bite
- Underdeveloped mandible

**Iatrogenic Form**
- **Positivity** for previous orthodontic treatments
- Bilateral scissor bite

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Therapy

➢ **Orthodontic** approach: for *young* patients
  • Orthodontic treatment to modify the facial growth pattern through orthopaedic forces and functional appliances

➢ **Orthodontic-Surgical** approach: for *adult* patients
  • Maxilla: Monobloc or multi segmental LeFort I Osteotomy
  • Mandible: angle-body mandibular osteotomy for mandibular advancement and rotation
Clinical Case
Cephalometric Analysis
Tweed model

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Pre therapy</th>
<th>Post therapy</th>
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<tbody>
<tr>
<td>FMIA</td>
<td>67°</td>
<td>55°</td>
<td>60°</td>
</tr>
<tr>
<td>FMA</td>
<td>25°</td>
<td>27°</td>
<td>27°</td>
</tr>
<tr>
<td>IMPA</td>
<td>88°</td>
<td>98°</td>
<td>93°</td>
</tr>
<tr>
<td>SNA</td>
<td>82°</td>
<td>85°</td>
<td>80°</td>
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<tr>
<td>SNA</td>
<td>80°</td>
<td>74°</td>
<td>75°</td>
</tr>
<tr>
<td>ANB</td>
<td>2°</td>
<td>11°</td>
<td>5°</td>
</tr>
<tr>
<td>AO-BO</td>
<td>2 mm</td>
<td>6,5 mm</td>
<td>6 mm</td>
</tr>
<tr>
<td>Occ. Plane</td>
<td>10°</td>
<td>17°</td>
<td>11°</td>
</tr>
<tr>
<td>Z-ANGLE</td>
<td>75°</td>
<td>57°</td>
<td>62°</td>
</tr>
<tr>
<td>Upper lip</td>
<td>=</td>
<td>10 mm</td>
<td>15 mm</td>
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<tr>
<td>Total Chin</td>
<td>=</td>
<td>11 mm</td>
<td>12 mm</td>
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<tr>
<td>Post Face Ht</td>
<td>45 mm</td>
<td>44 mm</td>
<td>52 mm</td>
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<tr>
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<tr>
<td>Index Post/Ant</td>
<td>.69</td>
<td>.83</td>
<td>.80</td>
</tr>
<tr>
<td>Facial HT</td>
<td>2:1</td>
<td></td>
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</tbody>
</table>

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“If the bones of the splanchnocranium are subjected to a mechanical traction at sutural level, a new bone formation can be observed at this level. On the contrary, if a suture is compressed, the growth is inhibited in that point.”

(Proffit)
Conclusions

It can be affirmed that the rapid palatal expander can be a good choice to reduce the transversal excess of the maxilla thanks to:

• Its orthopaedic action on the medio palatine suture

• Alveolar bone reshuffle

• Change in the form of the dental arch