

Introduction

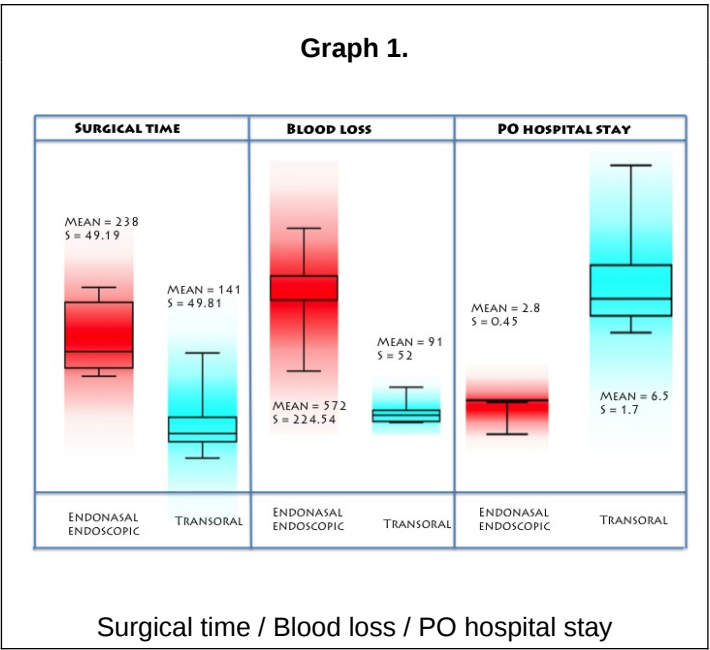
Historically C1-C2 junction, dens process and the CVJ have been usually approached through different routes including: transoral – transpharyngeal , transmandibular – retropharyngeal & anterior cervical approaches. This has change over the last years with the development of the expanded endoscopic endonasal approaches. We present our experience with 12 consecutive cases of C1-C2 instability that required 360-degree surgery. Endonasal endoscopic odontoidectomy was done with five cases & compare them with seven transoral (TO) cases.

Methods

Twelve consecutive cases were operated with CVJ instability with or without basilar invagination (BI) in Mexico City from 2009 to January 2013. In five cases the odontoidectomy was performed through an endonasal endoscopic approach, using a 18cm x 4mm Karl Storz rigid endoscope attached to a high definition camera. Four cases with basilar invagination (Avg 11 mm) and one case without. Seven cases with non-reducible C1-C2 luxation with and without BI were operated through a traditional TO approach. All cases were fused using a posterior construct with lateral masses screws in the same procedure, just after the odontoidectomy was performed. One case was previously fused (Occiput – C4 fusion). All cases were operated by one neurosurgeon.

Results.

In the TO group two patients presented postoperative dysphonia, one dysphagia and one CSF leak. No complications were reported on the endoscopic group. Endoscopic approach requires a larger surgical time (AVG 238 min Vs transoral 141min), but with fewer postoperative days of hospital stay (AVG 2.8 days Vs 6.5 days).



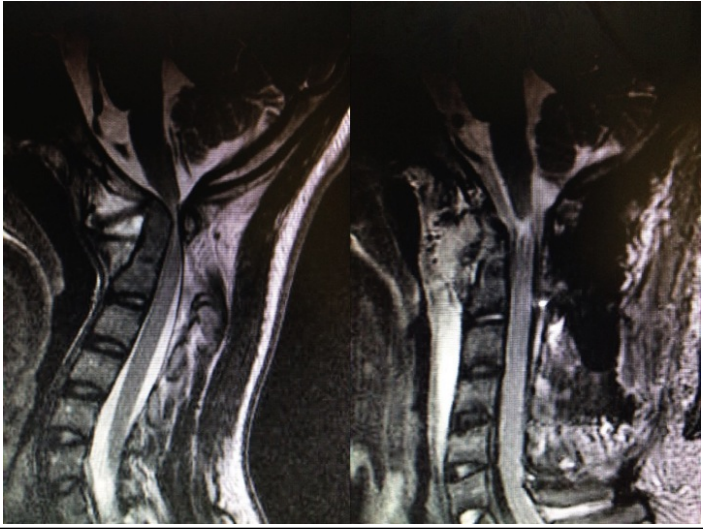
References

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Discussion

The advantages EEA are a smaller incision in the nasopharynx, which decrease the temporary nasogastric tube feeding. Tracheostomy is not needed and we assume that bacterial contamination was minor and the hospital stay was significantly less in comparison with the transoral group, which decrease the hospital costs. The integrity of the dura mater remains the challenge for this approach, fortunately the odontoid process and the pannus are always epidural. EEA is achievable and effective with minimal invasiveness. Our initial experience favors the endoscopic endonasal route but further experience will be needed to evaluate the effectiveness. The principal limitation is that it can only reach lesions above the level of the atlas rim.

Pre and postoperative MRI



Conclusions

Conclusions Endonasal endoscopic odontoidectomy is a safe and well tolerated procedure. No complications were documented in these five cases, & should be considered if BI is present. Further studies are needed.