Unique Multimodality Approach in a Patient with a Challenging Juvenile Nasopharyngeal Angiofibroma.

Robert J. Reyes, MD; Chad Baarson, DO
Walter Reed National Military Medical Center
Bethesda, Maryland, USA

The views expressed in this presentation are those of the author(s) and do not reflect the official policy of the Department of Army/Navy/Air Force, Department of Defense, or U.S. Government. The identification of specific products, scientific instrumentation, or organizations is considered an integral part of the scientific endeavor and does not constitute endorsement or implied endorsement on the part of the author, DoD, or any component agency.
Disclosure

Speaker name: Robert J. Reyes, MD

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

☐ I do not have any potential conflict of interest
Learning Objectives

• Devascularization techniques described with a didactic case presentation
• Utility of direct tumor puncture and transarterial approaches
• Favorable characteristics of liquid embolic agent ethylene vinyl alcohol copolymer (Onyx)
Juvenile Angiofibroma (JNA)

- Almost exclusively found in adolescent boys
- Locate at the posterior nasal cavity
  - Near the sphenopalatine foramen
- Tumor characteristics
  - Benign
  - Locally invasive
  - Highly vascular
  - Tend to recur
11 year old boy with headaches
11 year old boy with headaches
Juvenile Angiofibroma

• Preoperative embolization
  • Decreases intraoperative bleeding
  • Reduces tumor size
  • Improves tumor visualization

• Surgical resection
  • Endoscopic or Open surgery
  • Goal is total “En Bloc” resection
Devascularization Techniques

• Transarterial embolization
  • Incomplete devascularization
  • Risks of non-target embolization

• Direct tumor puncture
  • Increased tumor penetration
  • Improved tumor visualization during surgery
  • Risk of non-target embolization
Treatment Plan

1. CT-Guided Direct Tumor Puncture
2. Transarterial access
   1. Evaluation of external-internal carotid artery collaterals
   2. Degree of devascularization from direct puncture
   3. Optional transarterial embolization
3. Endoscopic surgery the following day
11 year old with headaches
Follow Up

Patient is doing well at 2 months after surgery, and is scheduled for a surveillance MRI in one year.
Final Points

• Complete JNA resection is technically challenging and requires a multi-disciplinary team.
• Direct tumor puncture and transarterial techniques used together can achieve complete devascularization prior to surgery.
• CT-guidance optimizes direct tumor puncture of smaller JNAs.
• Onyx devascularization improves intraoperative visualization, enables complete resection, and reduces tumor recurrence.
References


Questions

Contact Information:
robbie.reyes@gmail.com