“All for one and one for All”

TONY YSUNZA
IAN JACKSON CRANIOFACIAL AND CLEFT PALATE CLINIC
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DISCLOSURE

No conflict of interest
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GOALS

• UNDERSTAND V P I.
• V P S VARIES INDIVIDUAL - INDIVIDUAL
• IMPORTANCE OF IMAGING PROCEDURES FOR ASSESSING V P I
• INTERACTION OF MULTIDISCIPLINARY MANAGEMENT
V P I

• V P I = HYPERNASALITY WITH OR W O NASAL EMISSION; WITH OR W O NASAL REGURGITATION

• DIFFERENT ETIOLOGIES
TEAM EFFORT

A QUE LE TIRAS CUANDO SUENAS MEXICANO?

DAVID BLOOM, MD; DONALD GIBSON, MD, KENNETH SHAHEEN, MD; KONGKRIT CHAIYASATE, MD; MATTHEW RONTAL, MD; MELISSA McBRIEN, MD
FRIENDS OR ENEMIES?

- V P I W COMP. ARTIC. (SLP + SURGERY)
- V P I W O COMP. ARTIC. (SURGERY)
V P I

- V P I W COMP.ARTIC. (20 - 25% IN US, CANADA AND REST OF FIRST WORLD. BUT CAN GO UP TO > 50% IN THIRD WORLD (SEVERAL FACTORS)
SURGICAL TREATMENT V P I

• SAME SURGICAL PROCEDURE – TECHNIQUE FOR EVERY CASE?

• HOW TO MODIFY SURGICAL TECHNIQUE?

• HOW TO DEFINE OUTCOME? ("AHI SE VA"... “Q TANTO ES TANTITO?”... “MA O MENOS”... “GOOD SPEECH”)
Speech outcomes at age 5 and 10 years in unilateral cleft lip and palate after one-stage palatal repair with minimal incision technique – A longitudinal perspective

Jill Nyberg a,b,c, *, Petra Peterson b,d, Anette Lohmander

a,c a Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet, Stockholm, Sweden
b Department of Reconstructive Plastic Surgery, Karolinska University Hospital, Stockholm, Sweden
c Department of Speech Pathology, Karolinska University Hospital, Stockholm, Sweden
d Department of Molecular Medicine and Surgery, Karolinska Institutet, Stockholm, Sweden

• PALATAL REPAIR AROUND 1 YEAR (10 – 18 MONTHS)
• AFTER 10 YEAR FOLLOW – UP = 45% RESIDUAL V P I
• C A < 25 %
• ALL RESIDUAL V P I ‘S TREATED W PHARYNGEAL FLAP
NEVER OPERATE W O ANATOMICAL AND PHYSIOLOGICAL ASSESSMENT OF V P S

- VIDEONASOPHARYNGOSCOPY
- VIDEOFLUOROSCOPY : MULTIPLANAR VIDEOFLUOROSCOPY

AW HELL NO.
• DIRECT VISUALIZATION OF THE ENTIRE VOCAL TRACT THROUGH THE NOSE
• FLEXIBLE ENDOSCOPE
• < 3 MM DIAMETER
• RECORDING DEVICE WITH SOUND
• *TOLERANCE – DISCOMFORT = 2 – 3 OF 0 – 3.
• *NOT VERY GOOD)
PREOP VIDEOFLUOROSCOPY
INTRAOPERATIVE ENDOSCOPY
M P V F

• DYNAMIC ASSESSMENT (VIDEO)
• ANALYSIS ON VIDEO
• (CORONAL, SAGITTAL, AXIAL)
• *TOLERANCE – DISCOMFORT
• 0 – 1 OF 0 – 3.
• (**VERY GOOD)
Wilhelm Roentgen
1895
15 min exposure !!
(his wife, WHO ELSE ?)

Wilhelm’s wife on viewing her skeleton:
“I have seen my own death”
MPVF (CONT.)

• EXAM IS NEEDED. NO OTHER STUDY PROVIDES SAME INFO WITHOUT IONIZING RADIATION (ACTUAL SIZE MEASUREMENT, LPW MOTION AND DEPTH (3 – D CONCEPT).
• MULTIPLANAR
M P V F (CONT.)

- PULSED V F VS CONTINUOUS.
- AVOID MAGNIFICATION
- TOWER CLOSE TO PATIENT
M P V F (CONT.)

• LIMIT FLUOROSCOPY TIME (40 SEC) = ENHANCE COMPLIANCE *

• AVOID PLANES (AXIAL WHEN SCOPE AVAILABLE)

• CONING TO AVOID RADIOSENSITIVE STRUCTURES SUCH AS LENS AND THYROID
You will seat on mommy or daddy’s lap
The doctor will squirt a little “white water” into your nose with a tiny plastic tube. You will feel a funny tickle in your nose
M P V F (CONT.)

- **KEEP TRACK OF RADIATION DOSE**

- **EFFECTIVE RADIATION DOSE < 50 mSv OR mGy**
VIDEOFLUOROSCOPY

- MilliSieverts
- Multiplanar Videofluoroscopy (Coronal, Sagittal, axial (optional) and obliques (optional)

- \( n = 98 \) PATIENTS
- \( X = 2.88 \text{ mSv} \)
- \( \text{SD} = 1.575 \text{ mSv} \)
- \( \text{RANGE} = 0.40 \text{ mSv} - 8.75 \text{ mSv} \)
• ASSESSMENT AND MEASUREMENTS
• D V D
LOW IMPLANTATION: LESS EFFECTIVE AND MORE RISK OF OBSTRUCTION

NOT - TAILORED FLAP
TAILOR-MADE FLAP

HIGH IMPLANTATION = EFFECTIVE
NO OBSTRUCTION
PREOP. LPW. AT REST

15.9 mm
POSTOP. FLAP

COMPLET OCCLUSION OF BOTH PORTS DURING SPEECH /S/
SPHINCTER PHARYNGOPLASTY

20 mm BELOW HARD PALATE
SPS ARE USUALLY VERY LOW
SPHINCTER PHARYNGOPLASTY
V P I CORRECTED (HIGH)
TAILOR MADE PHARYNGEAL FLAPS W INTRAOP V N P

"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."
INTRAOPERATIVE V N P

• WHY NOT ONLY M P V F ??
• WHY IS V N P NECESSARY ??
8 YO. SMCP. POST FURLOW. RESIDUAL HYPERNASALITY AND NASAL EMISSION
LEFT ICA MEDially DISPLACED
22q13.3: 4 signals present

22q11.2: 4 signals present
POST T & A AND POST FLAP
2mm BELOW H P
VELOPHARYNGEAL SURGERY

- FAT TRANSFER FOR CORRECTING SELECTED CASES OF VPI
- CAREFUL SELECTION OF CASES
- FAILED PHARYNGEAL FLAPS OR BORDERLINE VELOPHARYNGEAL CLOSURE AFTER VELOPLASTY
- INTRAOPERATIVE VIDEONASOPHARYNGOSCOPY

Fat Transfer

"Doctor, can you take my fat from here and move it there?"
SUBMUCOUS CLEFT PALATE – REPAIRED W FURLOW “Z” PALATOPLASTY. RESIDUAL BORDERLINE V P I. SECONDARY F. T.
Velopharyngeal videofluoroscopy: Providing useful clinical information in the era of reduced dose radiation and safety
Pablo Antonio Ysunza; David Bloom; Kongkrit Chaiyasate; Matthew Rontal; Rachel VanHulle; Kenneth Shaheen; Donald Gibson

Affiliations
Speech Pathology Services, Ian Jackson Craniofacial and Cleft Palate Clinic, Neuroscience Program, Beaumont Health, Royal Oak, MI, USA

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Abstract

Full Text

Images

References
SURGICAL TREATMENT OF V P I

• OPEN YOUR OPTIONS
  • SECONDARY INTRAVELAR VELOPLASTY OR FURLOW
  • FAT INJECTION
  • SYNTHETIC INJECTION
  • PHARYNGEAL FLAP
  • SPHINCTER PHARYNGOPLASTY

• PLAN AND CUSTOMIZE !!

• INDIVIDUALIZE !!

• REMEMBER: SURGERY IS SCIENCE AND ART
GRACIAS POR SU ATENCION !!

BCBSMF

- antonio.ysunza@beaumont.edu
- ADDITIONAL INFORMATION
- REFERENCES
- COMMENTS
- DONATIONS
- GIFTS