Local Anesthesia for the Pediatric Patient

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Lidocaine 2%

- 1.8 cc per Carpule
- $\times 2\% = 36\text{mg(lido)}$ per Carpule
- Max Dosage: 2.2 mg/lb or 4.4mg/kg.
- Epi 1:100K or 0.018mg/carpule
- Role of epi

Gauge of Needle

- 27 Gauge Larger Than 30
- Perceptible Pain Difference?
- Better Aspiration Ability?
- 30 Ga. Slows Rate of Injection
- Long, Short, and Ultra-short
- Bevel faces bone
Behaviour Management Techniques for L.A.

- Warm up to your patient
- (fav. Cartoons, Activity etc.)
- Tell, show, do?
- Euphemisms - “Sleepy juice” (x hurt/pain)
- Distraction and verbal communication
- Positive reinforcement
- Reward
- Breathe/count to 10
- Bathroom - micturation reflex

Local Anesthesia techniques

1. Operator and chair position
2. Patient head and hand stabilization
3. Topical anesthesia - technique and limitations
4. Keep syringe out of patients view
5. The biteblock
6. Aspirate and inject very slowly
7. Lip jiggling
8. Mouth rinse, massage area and seat patient upright
Assessment of Local Anesthesia

Onset of anesthesia:
- Soft tissue vs hard tissue
- Subjective and objective testing

L.A. Techniques

1. Mandibular Anesthesia - block vs infl
2. Maxillary Anesthesia - palatal tissues
3. Periodontal ligament injection (pdl)
4. Long buccal
Topical Anesthetics

- Use Acceptable Tasting Brand
- 120 Seconds Minimum
- Effective only on Non-keratinized Areas
- Pressure Anesthesia for Keratinized Areas
  - Ball Burnisher
  - Increasing Pressure > Blanching

Case Scenario

A 7 yr old male presents for restorative care (DO-RSN #T). The patient weighs 35 kg/70 lbs.
Discuss the mode of anesthesia (block vs infl) and maximum recommended dosage in mg and carpules for this patient.

Case Scenario

Block
Max dosage = 2.2 mg/lb or 4.4mg/kg
70 x 2.2 = 154mg (lido)
36 mg of lido and 0.018mg of epi = 1 carpule
154 div 36 = 4.2 carpules (0.0756mg of epi)

LA Overdose

- Causes - intravascular injection, excess dosage
- CNS depression
  - drowsiness
  - seizures
  - disorientation
  - Loss of consciousness
- CVS - ↓HR, ↓CO, CV collapse
OVERDOSE PREVENTION

• Know pt. Hx, Wt.
• Calculate max dosage and use the smallest qty to achieve adequate anesthesia
• ASPIRATE and inject slowly
• MANAGEMENT - BLS, transport to medical facility

DOCUMENTATION

1. L.A. contains lidocaine and epinephrine. THESE ARE DRUGS
2. Chart entries must include dosage(in mg), site, route of administration. Example:
   36mg of lido(2%) with 0.018mg of epi was administered as an IAN block for a pulpotomy on #T using RD isolation. PICPF

AHA guidelines

Posted on courseworks.
Excerpts……
1. Pre-medication needed for ortho bands placement and pdl injections.
2. Pre-medication not needed for pulpotomy or LA

Pediatric Exodontia

Dr. S Lal

Indications

1. Gross decay/unrestorable teeth
2. Tooth abscess/infection
3. Over retained primary teeth
4. Orthodontic reasons
5. Root tips

Pre-op workup

✓ Obtain X-ray on the day of ext
✓ Explain and obtain consent from the parent before you start the procedure
✓ Explain to the child that he/she has a “Sugar bug in his tooth that needs to be wiggled”
✓ Topical anesthesia
✓ Know max recommended dosage
✓ Med hx
**Pathology**

- Furcation involvement with internal root resorption.
- Tx : Ext #T, Sp.mgmt?

**Pathology**

- Internal resorption with furcation involvement.
- Tx - Sp.mgmt impressions followed by ext# T

**Anomalies**

- Over-retained primary 2nd molar due to unfavorable pattern of root resorption
- Tx - Ext #T
Armamentarium

Getting Started

Don’t Forget the Finger Rest

Grasping the Instruments

Taking the Proper Precautions
Wafer Thin Roots

Making Room for the Permanent Dentition

Root Close-up

Gross Caries

Baby Cowhorns

Post-op care
- Check for any root breakage vs(x-ray)
- Compression of bony socket
- Hemostasis - positive pressure-5min
- Gauze pack
- Post-op instructions
Pediatric Rubber Dam Application

• Isolation
• Prevents:
  • Aspiration
  • Materials Contamination
• Behavior Management Aid
  • Excessive Talking
  • Tongue Interference

Area of Isolation

• Clamp tooth distal to treatment tooth
• Isolate one tooth either side of treatment site

Rubber Dam Clamp

• Seat Well Via Finger Pressure
• Breakage
  • Occurs at Bow
  • Lingual Aspect: Aspiration Danger
• Retrieval:
  • Floss Tied through Lingual Forcep Hole
  • Peds clamps- 27, 27N, 14, 14A

Figure 2—Note the clear outline of the rubber dam clamp together with a number of amalgam particles.
Maxillary Anterior Isolation

- Avoid 227 Clamp...Traumatic
- 2 “Large” Contiguous Holes
- Stretch from Canine to Canine
- Ligate if Necessary
Thank you !!