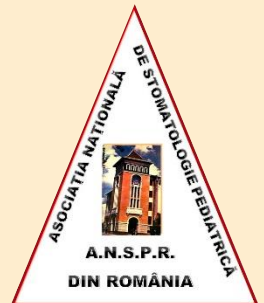




the Child Dental Patient with

associated

Cardiovascular Disease



CLINICAL CASES

CLINICAL CASE 1. _____ *B.A., male, 10y.*

General dg: VSD fully repaired in early childhood
allergic to Cefort

Dental dg: mixed dentition, class II/2 occlusion with mild crowding,
plaque gingivitis

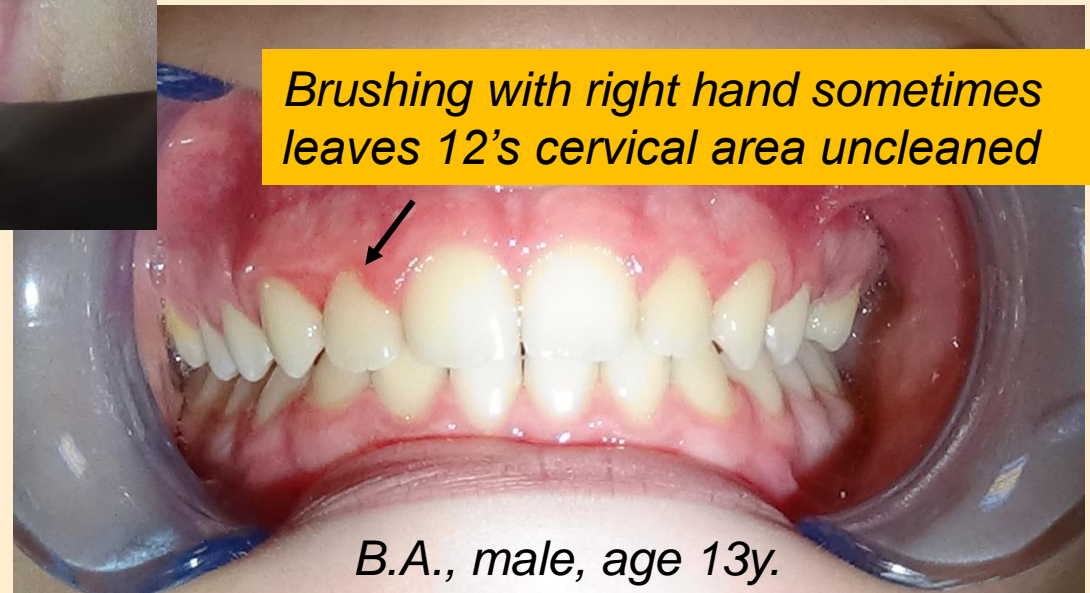
Reason for visit: first dental check-up, gingival bleeding, several loose
teeth - panoramic X-ray:



- Clinical examination: generalized gingivitis due to inefficient brushing
multiple deciduous teeth with mobility (53, 63, 84)
caries- free
- The child was very much aware of his heart condition and knew that he was supposed to avoid any bleeding in order to avoid potential risk of complications (IE).
Patient's mom (a health professional herself) was particularly worried and insisted for AB protection before any dental procedures involving bleeding (e.g. extraction of primary teeth).
- The importance of thorough oral hygiene in the prevention of gingival bleeding was explained to both mother and child and the AHA and ADA updated recommendations on IE prophylaxis were discussed.
- Given that **more than 6m** had passed since heart surgery, the patient's condition did **NOT** require premedication for bleeding dental procedures.
This was perceived as a relief by both mother and patient.
- Professional cleaning was performed and loose teeth were removed.

After first dental intervention and with improved home oral hygiene routine, gingival status dramatically improved and bleeding ceased. So did bleeding phobia.

Over the following 2 years orthodontic treatment and myofunctional therapy followed.



B.A., male, age 13y.

CLINICAL CASE 2. _____ *G.N., male, 6y.*

General dg: VSD incompletely repaired by 2 previous surgeries, needing a third intervention

Reason for visit: was referred for dental treatment as a preparation for cardiac surgery

Dental dg: extensive caries in primary teeth, with massive crown destructions and pulp involvement; multiple abscesses
crowding
gingival inflammation due to poor oral hygiene



Anamnesis: history of 2 cardiac arrests

Problems encountered:

- very poor dental compliance (Frankl score 1) – risk of high endogenous adrenaline
- poor oral hygiene – refuses brushing- motivated by fear of bleeding
- extensive dental problems, needing complex long-term treatment
- overindulged child due to his health condition

→ Needs GA for dental treatment

- Problematic issue: Debate between cardiac surgeon – anaesthesiologist – paedodontist regarding risk/benefit ratio; reluctance towards dental GA prior to heart surgery due to estimated high risks of the GA administration itself

Before any GA could be scheduled, patient had had repeated acute episodes with dental pain and abscesses.

Teeth 64, then 52 and 75 were removed under single-dose antibiotic prophylaxis.

Amoxicillin 50 mg/kg bodyweight (1g) was used.

COVID-19 pandemic imposed postponing of both dental treatment and VSD surgery.

CLINICAL CASE 3. _____ C.A., male, 6 y 3m

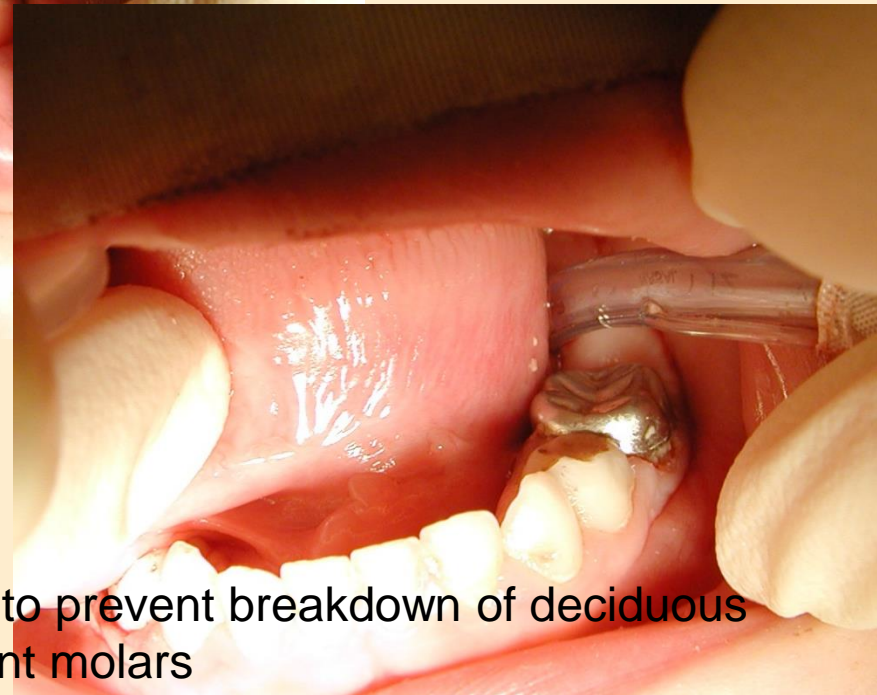
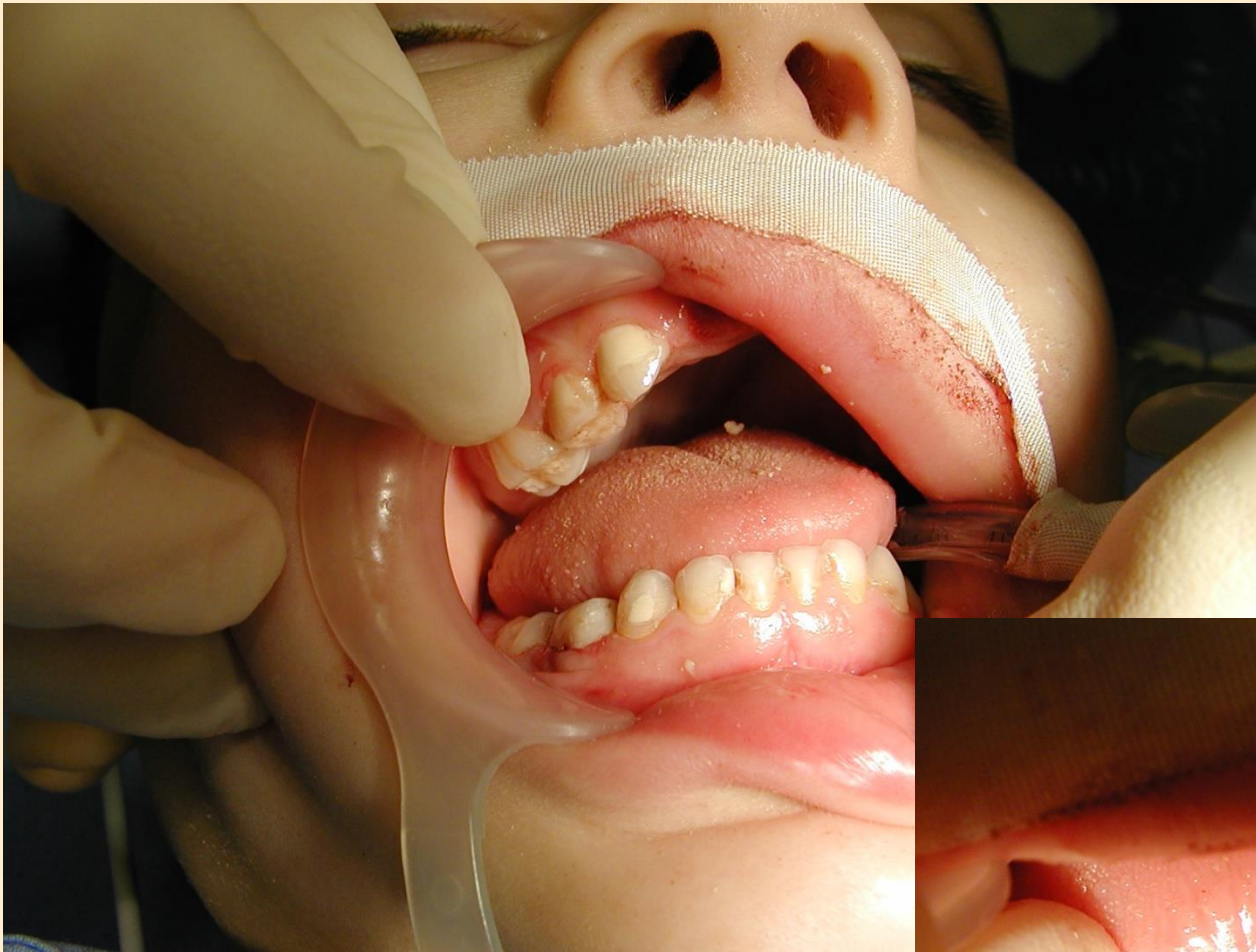
General dg: subaortic stenosis

Dental dg: ECC, with extensive crown destructions

Reason for visit: Referred by GP for dental treatment prior to surgery in order to avoid potential infection risks



Extensive dental problems recommended one-session full mouth treatment under GA



Treatment under GA:

Compromised teeth were extracted
Glass-ionomer restorations were placed
Stainless steel crowns were used in order to prevent breakdown of deciduous molars and mesial drifting of first permanent molars

Problems encountered:

No consistent follow-up was possible, parents did not understand the importance of regular dental check-ups in the absence of symptoms.

CLINICAL CASE 4. _____ I.M., male, 5 y 5m

General dg: (as stated at age 10 m) Tricuspid and pulmonar valve atresia;
hypoplastic right ventricle, large ASD, ligatured persistent ductus
arteriosus, systemic-pulmonar shunt
Patient under current treatment with Aspenter 45mg/day

Dental dg: extensive plaque gingivitis, ECC with massive crown
destruction # 51, 52, 61,62

Reason for first visit: Referred by primary care provider (family doctor)
for extraction of compromised upper deciduous incisors
prior to cardiovascular surgery

Theoretic notions on the medical condition

Tricuspid atresia = a CHD

- Tricuspid valve (between the right atrium and ventricle) isn't formed → underdeveloped right ventricle → not enough oxygen → patient tires easily, can have blue-tinged skin.

Tricuspid atresia is treated with multiple surgeries. Most babies with tricuspid atresia who have surgery live well into adulthood, though follow-up surgeries are often needed.

1st visit:

- Clinical examination, history taking
- findings: ECC, with compromised upper incisors
- No document attesting INR values was brought; INR as reported by parents was 2.53
- medication protocol was set in collaboration with cardiologist
- a second appointment was scheduled for extractions under AB + oral sedation

2nd visit (2 wk after first):

- antiagregant medication (Aspenter) was stopped 24 h prior to dental intervention; INR=1.28
- AB (Ospen 250 mg/8h 3 days prior+ 4 days after extractions)
- Midazolam 7.5 mg was administered orally 30' before dental visit
- extractions of 52, 51, 61, 62 under local anaesthesia (1 ml articaine with 1:100.000 epinephrine)

Parents were informed about the importance of oral hygiene, correct dietary habits and regular dental check-ups (at least every 6m).

Patient does not show for the next planned appointment. No-show for the following 1 y 6 m.

3rd visit (after 1y 6m), age 6y 11m:

- clinical examination reveals occlusal caries on 54 and erupted first permanent molars
- panoramic Xray is recommended
- caries treatment + sealants are under nitrous sedation are planned (very fearful child, limited compliance)

No photos were taken during first 3 appointments due to extreme reluctance of child.

Patient does not show for the planned appointment or for re-schedule. No-show for the following 2 y 11 m.

Problem encountered:

- Parents' poor understanding of the importance of both hygiene and regular dental check-ups.
- Irregular visits did not allow for a trustful relationship to be established between the patient and the dental team

4th visit (9y10m) - in **emergency**

- reason: panic due to extensive gingival bleeding after a minor playground accident
- **INR=6.22** - Haematologist strongly advises **No-Touch** by dentist
- Clinical findings: severe plaque gingivitis, gingival hyperplasia especially in the front lower teeth area, crowding, retention of 74, 84 while 33, 34, 44 are emerging
- Bleeding was controlled by topical application of 20% Ferric Sulfate (Ultradent Viscostat®)
- Current medication – Trombostop – is stopped (haematologist's advice) for 5 days – until next appointment

5th visit:

- INR=1.28
- extractions: 74, 84
- glass-ionomer filling on mesial surface of 75
- professional cleaning: scaling (deep subgingival calculus), airflow)
- reasonable compliance
- manoeuvres with no bleeding potential (occlusal caries) are scheduled for the next visit (after 6 weeks)



I.M., male, age 9 y 10m. Clinical aspects before treatment session.

Clinical aspect after professional plaque removal, before extractions: reasonable bleeding, overgrown papillae



Problems encountered:

- stress-induced spontaneous vomiting (even in the absence of any clinical manoeuvres) was overcome by nitrous sedation

No-show after this

Conclusion:

Parents' poor understanding of the importance of oral hygiene and regular dental check-ups remain an issue.

No x-rays were taken due to parents' failure to comply to recommendations.

Treatment is discontinuous and the oral health status of the patient is not under control, despite all efforts from the dental team and good communication with the medical team.

Under these circumstances, there is little chance for the patient's dental compliance or for his oral health status to improve → constant **high risk of bacteremia**

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