The Impact of Cancer on Providing Dental Care for an Older Person with Multimorbidity

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outstanding care listening and leading working together

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Introduction

By 2038, the proportion of the population aged 65 years and over is projected to reach over 24%[1]. With increasing age comes an increased prevalence of multimorbidity[2].
There is a lack of consensus about what constitutes 'multimorbidity'[2]. The Academy of Medical Sciences defines multimorbidity as a coexistence of two or more chronic conditions each of which is either:

- a physical non-communicable disease of long duration eg. cardiovascular disease or cancer,
- a mental health condition of long duration such as a mood disorder or dementia,
- an infectious disease of long duration such as HIV or Heptatitis C[3].

The National Institute for Health and Care Excellence (NICE) includes alcohol and substance misuse and a defined physical and mental health condition[4].

Multimorbidity is fast becoming the norm rather than the exception and has significant implications for oral health and for dental professionals involved in management. A holistic team approach utilising skill mix is required, as well as shared decision making with our patients[5].

Case Report

Medical History

Hypertension
HIV
Hepatitis B
Severe dysplasia vocal cords with laser treatment and radiotherapy 2016
SCC Larynx with Laryngectomy 2020

Medications:

Ramipril
Travada
Viramone
Amitriptyline
Lansoprazole
Hx of IV Ibandronic acid monthly 2019

Social History

Hx of problems with drug and alcohol use
Ex-smoker
No alcohol
Lives alone

Occupation: Counsellor and Psychotherapist

Male 70

Dental History

Brushing BD with ETB
Fluoride toothpaste
Treated within CDS for >20 years. Extensive restorative work.
Midway through -/P CoCr construction prior to salvage laryngectomy 2020.

Recall Appointment

Attended with half upper acrylic P/- in a bag. Breathless on arrival. Secretions +++ from stoma and coughing +++. Not wearing stoma protector/HME device.

PCO:
1. Loose upper front teeth
2. Broken upper denture - wants replacement

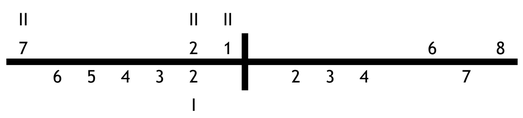
HPC:
Struggling to eat due to lost upper denture and loose front teeth.
Managing soft foods at the moment.
No pain.
Wants the top front teeth to be removed.

Patient priority: improve ability to eat and appearance.

Extraoral: TMJ, MoM, Lymph nodes: all NAD. Lips: dry. Laryngectomy stoma visible. Thick secretions evident. Red and moist appearance – patient has Buchanan Bib but not wearing it.

Intraoral:
Soft tissues: Tongue, FoM, BM, hard & soft palate – normal in appearance.
Saliva: normal appearance and consistency
Gingivae: generalised moderate with interdental recession, erythematous, swollen gingival margins, BOP.
OH: poor - plaque +++
BPE: not recorded at initial appointment as too uncomfortable. Visual examination of gingival status recorded. Due to extent of bone loss of radiographs, a six-point pocket chart would be indicated in the future to more accurately assess and monitor periodontal condition.

Mobility:



Tooth charting:

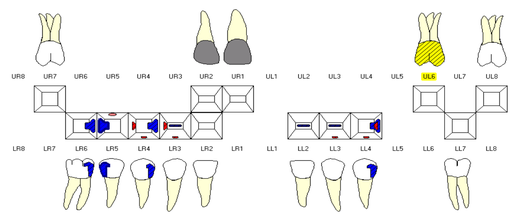


Figure 1: Dental charting at recall assessment. A defective restoration on the LR5 was identified as well as a number of cavitated and non-cavitated root caries lesions.

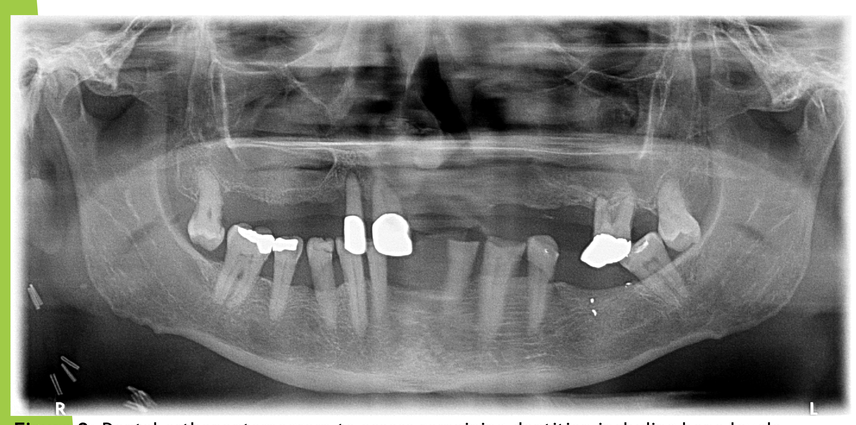


Figure 2: Dental orthopantomogram to assess remaining dentition including bone levels, presence of apical pathology and proximity of roots to adjacent structures. Intraoral views not tolerated due to gag reflex. Grade 1. Generalised horizontal bone loss to mid third of root length and to apical third at worst point (UL6). Apical radiolucency visible UR2, UR1, UL6 mesial root.

Diagnoses

1. Generalised Chronic Periodontal Disease Stage III Grade C – unstable. Risk factor: oral hygiene.
2. Perio-endo lesions UR2, UR1 – likely primary periodontal disease – hopeless prognosis.
3. Root caries: UR7, LR4, LR3, LL3, LL4.
4. Fractured restoration LR5.
5. Lost upper partial acrylic denture.

Challenges to Providing Treatment

1. **New pronounced gag reflex**
   Likely linked to SCC Larynx surgery.
2. **Communication**
   Verbal communication not possible at present.
   Speech valve placed but struggling to use.
3. **Medical history**
   History of intravenous bisphosphates (Ibandronic acid).
   History of radiotherapy to laryngeal region.
4. **Patient positioning**
   Due to stoma only feels comfortable in upright position.
5. **Frequent episodes of illness**
   Often not feeling well enough to proceed with planned appointments/treatment.
6. **Competing demands and priorities**
   Multiple appointments with other medical/surgical teams.
   Other social concerns - living with life after cancer.

Overcoming Challenges

1. **Gag reflex**
   Reassurance.
   Training base plate[6].
   Stock trays to practice at home – systematic desensitisation[7].

Figure 3: Upper training base plate constructed on pre-existing models, modified for fit after XLA UR2, UR1. A small crib has been placed on the UL6 to improve retention and hopefully build patient confidence. Unfortunately this was not possible in the URQ.

2. **Alternative communication methods**
   Appointments organised via text/email. Communication in surgery via writing. Contacted SALT to advise on alternative methods/ apps/additional advice.
3. **Contact with radiology/ oncology teams**
   Clarify radiation fields/doses and medical history.
   Medical summary from GMP.
   SDCEP guidance for extractions[8].
4. **Patient positioning**
   Treated in upright position.
   Short appointments. Frequent breaks.
5. **Appointment flexibility**
   Regular appointments.
   Skill mix with dental hygienist & therapist.
   Preventative focus each appointment. Advice in line with DBOH and RCS guidelines[9].
6. **Additional support**
   Signposting to sources of information/support inc hospital team/Macmillan Cancer Support/local HNC support groups.
   Empathic understanding approach.

Stabilisation Treatment Plan

1. **Prevention:**
   Oral hygiene education inc. denture care
   Fluoride application. Prescription of Duraphat 5000ppm
   Diet advice
2. **Extractions** of hopeless prognosis UR2, UR1.
3. **Stabilisation:**
   Full mouth hand scaling as tolerated – skill mix with dental hygienist & therapist.
4. **Restorations** via ART UR7, LR5.
5. **Prosthetics rehabilitation:**
   Upper denture training base plate.
6. **Recall 6/52:**
   Review healing of XLA sites
   Assess adaptation to training base.
7. **Replacement:** (provisional plan)
   Construction of transitional P/-.

Appointments

Recall/Assessment
Examination inc. special investigations.
Hand scale of lower arch.
Frequent pauses.
Duraphat varnish application.
Prescription of Duraphat 5000ppm toothpaste.

Appointment 2
PCO: nil
Fit and adjustment of cobalt chrome -/P.
Denture hygiene advice. Oral hygiene advice.
Unsuccessful attempts at upper secondary impressions.
Stock trays given to practice with at home.
Liaise with lab technician – possibility of creating training base on pre-existing primary imps?

Appointment 3
PCO: upper front tooth (UR2) starting to cause pain but manageable at present - plan for extraction UR2, UR1 next appointment.
Oral hygiene education with patient's electric toothbrush.
Review of CoCr -/P.
Hand scale of teeth.
Fluoride varnish applied.
Pt discussed gag reflex with SALT – likely due to surgery. Contacted SALT wrt advice/additional support for patient.

Appointment 4
ART LR5l UR7m.
Extraction of UR2, UR1.
Fit of training base plate.
Referral to dental hygienist & therapist for continued OHE, scaling and fluoride varnish.

Recall 6/52
Assess healing XLA sites. Assess adaptation to training base plate.
Consider adjuncts/alternative treatment planning if no improvement.
Construction of transitional P/-.
Tailored recall 3/12 – high risk caries and periodontal disease.

Future Considerations

Stabilisation and Prevention:
Aim to retain remaining dentition, especially last standing molars and lower arch dentition – avoiding need for a full lower denture.
Focus on preventative rather than interventional dentistry to stabilise root caries and periodontal condition via shared decision making with patient.
Regular hygiene appointments required. Use of skill mix with dentist and dental hygienist/therapist.

Gag reflex:
If no improvement, consider alternative adjuncts including acupuncture or intravenous sedation to aid impressions or bite registration. Unlikely to be suitable solution if patient cannot wear the denture itself.

Medical emergency:
Laryngectomy requires altered airway management during medical emergencies. Patient carry's warning card detailing oxygen mask placement (ie. over the stoma not the mouth). Warning note added to patient's medical history with airway management algorithm uploaded to the patients files for use in emergency[10].

Patient Prognosis:
Five year survival around 65% and ten year survival 55% for all stages of laryngeal carcinoma according to CRUK[11]. Providing continued support to maintain quality of life and oral health is integral. Continued need for holistic management/support living with the side effects of cancer treatment and multimorbidity status.

Conclusion

A more holistic flexible approach together with reasonable adjustments is essential to allow safe acceptable provision of care for older patients living with multimorbidity.

This case highlights the significant challenges and adjustments/considerations required in particular for those who have undergone treatment for cancer and the dental teams who manage them.

Input from all medical and health care professionals involved in a patient's care is vital in a shared decision making process[5].

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