Article:
Kanatas, AN orcid.org/0000-0003-2025-748X, Lowe, D and Rogers, SN (2020) Free flap donor site during early review consultations: is it really an issue? British Journal of Oral and Maxillofacial Surgery, 58 (9). E115-E118. ISSN 0266-4356

https://doi.org/10.1016/j.bjoms.2020.06.007

Free flap donor site during early review consultations: Is it really an issue?

[1]Kanatas AN, [2]Lowe D and [3]Rogers SN

[1]Professor Anastasios Kanatas, MFDSRCS, FRCS (OMFS), MD, PGC,FHEA. Consultant Surgeon / Honorary Professor, Leeds Teaching Hospitals and St James Institute of Oncology and Leeds Dental Institute.

a.kanatas@doctors.org.uk

[2]Professor Derek Lowe, Astraglobe Ltd (Medical Statistician). Regional Maxillofacial Unit, University Hospital Aintree, Liverpool, UK and Edge Hill University, Liverpool and Evidence-Based Practice Research Centre (EPRC), Faculty of Health, Edge Hill University, St Helens Road, Ormskirk, UK. astraglobeltd@btconnect.com

[3]Professor Simon N Rogers, FDS RCS FRCS MD. Evidence-Based Practice Research Centre (EPRC), Faculty of Health and Social Care, Edge Hill University, St Helens Road, Ormskirk, L39 4QP and Consultant Regional Maxillofacial Unit, University Hospital Aintree, Liverpool, L9 1AE, UK. simonn.rogers aintree.nhs.uk

ORCID: 0000-0002-5989-6142

Address for correspondence: Anastasios Kanatas, BSc (Hons), BDS, MBChB (Hons), MFDSRCS, MRCSRCS, FRCS (OMFS), MD, PGC, FHEA. Consultant Surgeon / Professor, Leeds Teaching Hospitals and St James Institute of Oncology, Leeds Dental Institute and Leeds General Infirmary, LS1 3EX.

Tel: 00447956603118 e-mail: a.kanatas@doctors.org.uk

Keywords

Head and Neck Cancer; Patient Concerns Inventory; Patient Reported Outcomes; Free flap donor site

Abstract

Donor site complications, following microvascular free tissue transfer, can limit recovery in patients treated for head and neck cancer, with a curative intent. The Patient Concerns Inventory (PCI-HN) is a prompt list that provides patients with repeated opportunities to raise issues they feel are important and want to discuss. Here, we look at baseline results from a cluster preference randomised control trial with consultants either 'using' or 'not using' the PCI package in clinic to identify patient concerns. UWQOL results were presented from 67 consecutive patients having reconstruction with free tissue transfer and PCI results from 25 of these patients in the PCI arm of the trial. During early review consultations patients most wanted to discuss issues related to dental health, dry mouth and chewing. Donor site morbidity, in our patient sample, did not appear to be an issue that patients wanted to discuss.

Introduction

Reconstruction with free tissue transfer is the gold standard in head and neck oncology[1]. It is difficult to assess the patient impact of the flap harvest; this may be due to the fact that patients may require neck dissections and adjuvant radiotherapy or may be due to the presence of other issues perceived as more important to discuss, in a busy clinic. There are several papers exploring donor site issues, with a variety of free flaps in routine use, in high volume centres. Some papers report specific issues, whilst others report insignificant concerns from the donor sites[2-7]. The post treatment Patient Concerns Inventory (PCI-HN) is a 57-item prompt list specific to head and neck cancer [8]. Patients are able to select specific items and also have the opportunity through a free-text option to discuss with the clinicians any 'other' issue, that is not listed, such as donor site morbidity. The aim of this paper is to describe the overall health related quality of life (HRQOL) of patients having a free flap reconstruction and to assess how much the donor site forms part of what patients want to discuss during their early review consultations.

Materials and Methods

The protocol of the trial to assess the effectiveness of a consultation intervention package based around the PCI-HN used at routine follow-up clinics following treatment of head and neck cancer has been previously published[9]. The UW-QOL v4 questionnaire consists of 12 single item domains, these having between 3 and 5 response options according to response hierarchy. UW-QOL domains are presented within two subscales, physical function and

social-emotional function, as derived from earlier work[10] . Patients with head and neck defects were reconstructed with radial, anterolateral thigh, medial sural perforator and free flaps based on the thoracodorsal systems.

Results

A total of 67 patients in the trial had a free flap reconstruction from two tertiary centres, 35 from Aintree and 32 from Leeds. There were 40 males and 27 females and their median (IQR) age at diagnosis was 64 (56-72) years. They attended trial baseline clinics a median (IQR) 169 (97-223) days after surgery. Further patient characteristics are shown in Table 1. Figures 1 and 2 show the responses to the UWQOL for these 67 patients.

A total of 25 patients in the PCI arm of the trial had a free flap reconstruction, 19 from Aintree and 6 from Leeds. There were 12 males and 13 females, and their median (IQR) age at diagnosis was 71 (63-76) years. They attended the trial baseline clinic a median (IQR) 165 (121-226) days after surgery. Figure 3 illustrates the frequency of items as chosen by patients, at their baseline appointment with the clinical team. Donor site concerns were not raised on the PCI.

Discussion

The results in this short communication, are part of a larger cluster preference randomised controlled trial, that is currently ongoing. This is the first randomised trial in the literature reporting on issues patients would like to discuss at their first post-treatment consultation with the clinical team. Although direct questions about the donor site were not asked, it would be expected that if donor site issues had a significant effect on quality of life, then patients would be inclined to raise them voluntarily. Despite the plethora of papers reporting problems with the donor site, no patient from our sample wanted to discuss donor site problems. It is of interest that patients wanted to discuss issues related to dental health, dry mouth and chewing rather than wound healing (including the primary site) and cancer treatment. One explanation for these results may be that patients attended their first clinic several months (median 5.5 months) after the completion of surgery. It may be that donor site morbidity is relatively temporary in nature and may rarely be related with permanent functional defects. Literature is limited to the donor site morbidity of specific flaps or comparison between flaps. The difficulty in comparing donor site outcomes across various

studies relates to unmatched populations and varying outcome criteria. Also, donor site morbidity will depend on the size of the flap harvested and this is often not taken into account in the literature. Health-related-quality-of-life results (Figures 1 and 2) generally indicate a reasonably good outcome given they have had major reconstructive surgery. The main issues concern the shoulder, mood, taste, saliva, swallowing and chewing and these do not relate to donor site morbidity.

Donor site morbidity is one of the important factors in choosing a reconstructive option for an individual patient. Our results support the premise that surgeons should choose the most appropriate reconstruction for the defect as issues of donor site morbidity appear minimal relative to other concerns.

References

1. Abouyared M, Katz AP, Ein L, Ketner J, Sargi Z, Nicolli E, Leibowitz JM. Controversies in free tissue transfer for head and neck cancer: A review of the literature. Head Neck. 2019 Sep;41(9):3457-3463.
2. Orlik JR, Horwich P, Bartlett C, Trites J, Hart R, Taylor SM. Long-term functional donor site morbidity of the free radial forearm flap in head and neck cancer survivors. *J Otolaryngol Head Neck Surg* 2014;43:1.
3. de Witt CA, de Bree R, Verdonck-de Leeuw IM, Quak JJ, Leemans CR. Donor site morbidity of the fasciocutaneous radial forearm flap: what does the patient really bother? *Eur Arch Otorhinolaryngol* 2007;264:929-34.
4. Collins J, Ayeni O, Thoma A. A systematic review of anterolateral thigh flap donor site morbidity. *Can J Plast Surg* 2012;20:17-23.
5. Chen H, Zhou N, Huang X, Song S. Comparison of morbidity after reconstruction of tongue defects with an anterolateral thigh cutaneous flap compared with a radial forearm free flap: a meta-analysis. *Br J Oral Maxillofac Surg* 2016;54:1095-101.
6. O'Connell JE, Bajwa MS, Schache AG, Shaw RJ. Head and neck reconstruction with free flaps based on the thoracodorsal system. Oral Oncol. 2017 Dec;75:46-53.
7. Blumberg JM, Walker P, Johnson S, Johnson B, Yu E, Lacasse MC, Lam DK, Rittenberg B, Yao CMKL, Chepeha D, de Almeida JR, Goldstein DP, Gilbert R. Mandibular reconstruction with the scapula tip free flap. *Head Neck* 2019 Jul;41(7):2353-2358.

8. Rogers SN, El-Sheikha J, Lowe D. The development of a patients concerns inventory (PCI) to help reveal patients concerns in the head and neck clinic. Oral Oncol. 2009;45(7):555–561.
9. Rogers SN, Lowe D, Lowies C, Yeo ST, Allmark C, Mcavery D, Humphris GM, Flavel R, Semple C, Thomas SJ, Kanatas A. Improving quality of life through the routine use of the patient concerns inventory for head and neck cancer patients: a cluster preference randomized controlled trial. BMC Cancer. 2018 Apr 18;18(1):444.
10. Rogers SN, Lowe D, Yueh B, Weymuller EA Jr. The physical function and social-emotional function subscales of the University of Washington Quality of Life Questionnaire. Arch Otolaryngol Head Neck Surg. 2010 Apr;136(4):352-7.

Conflict of interest: The authors have no conflict of interest to report

Acknowledgements: This paper presents independent research funded by the National Institute for Health Research (NIHR) under its Research for Patient Benefit (RfPB) Programme (Grant Reference Number PB-PG-0215-36047). In addition, this research was supported by the National Institute for Health Research (NIHR) infrastructure at Leeds (DenTCRU|). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health."

Table 1: Patient characteristics (Patient numbers and percentages)

	All patients		PCI patients*	
Surgery only	21	31%	7	28%
Surgery with radiotherapy	39	58%	16	64%
Surgery with Radiotherapy and Chemotherapy	7	10%	2	8%
Total	67		25	
Stage I	13	19%	3	12%
Stage II	15	22%	7	28%
Stage III	8	12%	4	16%
Stage IV	31	46%	11	44%
Total	67		25	
Oral cavity	60	90%	23	92%
Oropharynx	5	8%	1	4%
Larynx	1	2%	1	4%
Other	1	2%	0	
Total	67		25	

*Patients in the PCI arm of the trial

Figure 1: Response to the UWQOL (Social-Emotional function) by 67 patients having free flap reconstruction

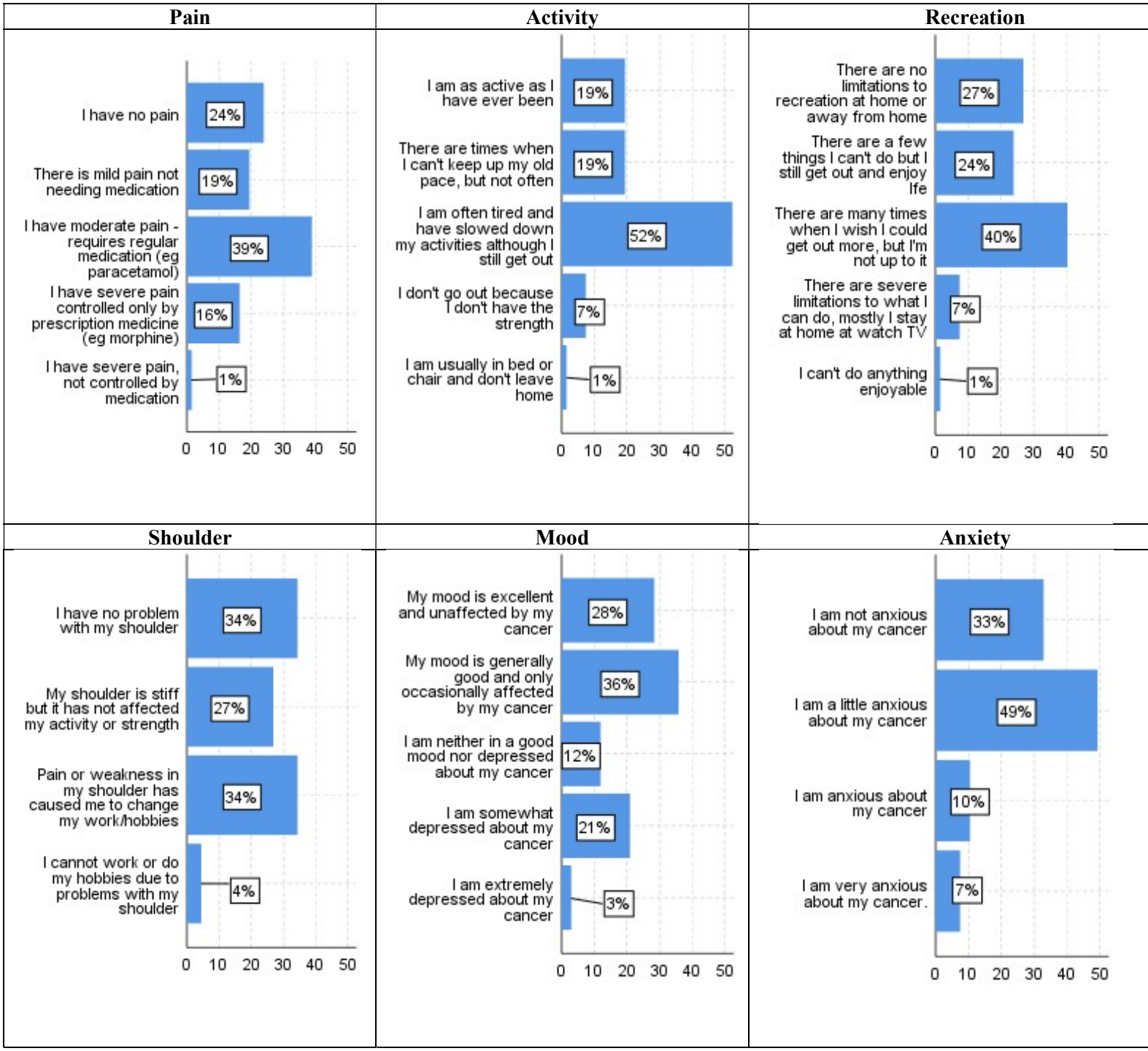

Figure 2: Response to the UWQOL (Physical function) by 67 patients having free-flap reconstruction

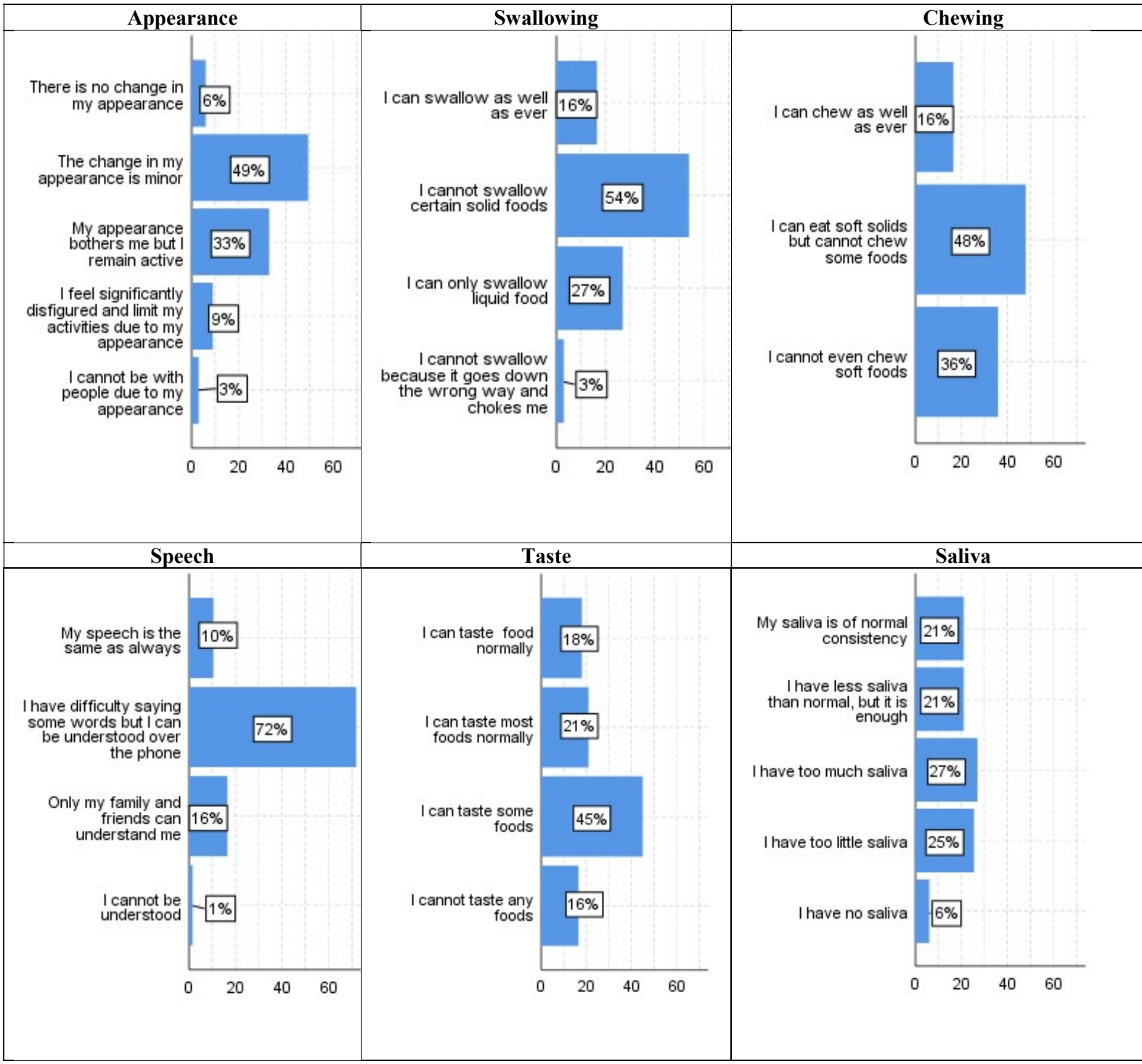

Figure 3: Frequencies of issues that the 25 PCI patients wanted to discuss at their first post-treatment trial baseline consultation