



**“ASSESSMENT OF SHOULDER MORBIDITY IN HEAD AND  
NECK CANCER FOLLOWING RADICAL NECK DISSECTION  
WITH AND WITHOUT PECTORALIS MAJOR MYOCUTANEOUS  
MUSCLE RECONSTRUCTION – A PROSPECTIVE STUDY”**

by

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## ABSTRACT

**Aim and Objective:** To compare morbidity of shoulder function following radical neck dissection with and without PMMC flap harvest in head and neck cancer patient for ascertain the effect of PMMC flap harvest on shoulder function while taking into account the confounding effect of ND and also to determine the effect of physiotherapy in the patient with shoulder morbidity after RND.

**Material and Methods:** In this prospective study a total of 20 patients who had undergone RND with PMMC flap reconstruction (Group – 1) as part of head and neck cancer surgery in the Craniofacial Surgery & Research Centre, Department of Oral & Maxillofacial Surgery, SDM College of Dental Sciences and Hospital, Dharwad, from 1<sup>st</sup> September 2009 to 31<sup>st</sup> May 2011 were included. A control group of 20 patients who had undergone RND without PMMC flap (Group – 2) in same period were included.

All patients were assessed at 3<sup>rd</sup> month and 6<sup>th</sup> month following completion of surgery using subjective (SDQ) and objective (goniometer and manual muscle testing) parameters.

**Results:** In group - 1, patients had 57.5% shoulder disability according to SDQ at 3<sup>rd</sup> month and disability reduced to 33.8% at 6<sup>th</sup> month after physiotherapy intervention. In group - 2, patients had 54.8% shoulder disability at 3<sup>rd</sup> month and disability reduced to 28.1% at 6<sup>th</sup> month after physiotherapy intervention. Comparison of shoulder complaints obtained by SDQ between Group - 1 and Group - 2 at 3<sup>rd</sup> month postoperatively as well as 6<sup>th</sup> month postoperatively were not significant. Comparison between group - 1 and group - 2 in all ROM of shoulder and MMT did not show any statistically significant difference at 3<sup>rd</sup> month postoperatively. At 6<sup>th</sup> month

*postoperatively both group - 1 and group - 2 showed improvements in shoulder ROM and muscle strength statistically significant compared to 3<sup>rd</sup> month but comparative study did not show statistically significant difference between Group - 1 and Group – 2.*

**Conclusion:** Harvesting of PMMC flap does not intensify the morbidity of shoulder which is caused by RND. A regimen of home-based exercises and patient education are effective tools to reduce shoulder disability and improving shoulder function.

**Key words:** Shoulder morbidity, radical neck dissection, Pectoralis major myocutaneous flap, range of motion, goniometer, manual muscle test, physiotherapy