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Acta Medica Iranica

2009;47(4) : 29-34

EVALUATION OF THE PLEURAL DISRUPTION FOLLOWING COSTOCHONDRAL GRAFT HARVESTING FROM FOURTH TO SEVENTH RIBS OF ADULT MALE CADAVER

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Abstract:

Costochondral and rib grafts have long been used for reconstruction of lost condyle. Donor site morbidity has less been under investigation and researched. Pleural disruption pneumothorax and ugly scars are among the donor site complications. This study aims to determine the rate of pleural disruption following costochondral graft harvesting from the 4th to the 7th ribs of right and Left ribs from recently expired cadavers; so maxillofacial surgeons and thorax surgeons could spare high risk ribs and minimize post- operative complications. This interventional study was performed on 80 ribs from 32 adult male cadavers with the recorded death being within the last 24 hours and all free of pulmonary diseases. We harvested 80 costochondral grafts from 32 cadavers and the incidences of pleural disruption were examined for the 4th to the 7th ribs of right and left side by means of SPSS software (10 harvestings from each rib). The incidences of pleural disruption were 17.5% while the right fifth rib had the highest risk (30%) and the left fifth rib had the lowest risk (0%). For the fourth to seventh ribs there were no significant differences between the ribs for pleural disruption, ($P = 0.95$) either in the right or the left ribs ($P = 0.24$). Pleural disruption was more probable to exist under the chondral part of costochondral grafts (CCG) rather than the osseous part. Valsalva maneuver was more useful than the naked eye for diagnosis of pleural disruption ($P < 0.0001$).

Keywords:

[Costochondral graft](#) , [rib graft](#) , [pleural disruption](#) , [cadaveric study](#)

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