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DRG System Complicates Rotator Cuff Repair Decisions in Italy

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We read with interest the paper by Huang et al. Arthroscopic procedures have emerged as the gold standard in the treatment of several pathologies, especially those of the shoulder girdle. Arthroscopic rotator cuff repairs (both single and double row) have shown clinical advantages over open rotator cuff repairs. One would expect that surgeons and hospitals that have expertise with the arthroscopic approach would be incentivized to pursue arthroscopic procedures, given the advantages over open rotator cuff repair.

Unfortunately, that is not always the case. In fact, some European countries (Italy, for example) base their public health systems on a fixed reimbursement system called diagnosis-related groups (DRGs), which account for hospitalization, implantable devices, and physician fees based on the patient's pathologies and consequent surgical procedures. However, this system sometimes fails to cover the expenses of the surgical procedures and associated costs.

In Italy's DRG-based health system, performing a rotator cuff repair arthroscopically severely decreases the reimbursement of such an operation, and the disadvantage is even greater when double-row repair is chosen. For an open cuff repair associated with an acromioplasty, the DRG changes from 224 to 223 and the consequent reimbursement decreases from €4,303 to €3,041. On the contrary, for arthroscopic rotator cuff repair associated with an acromioplasty, the DRG changes from 232 to 223, and reimbursement increases from €1,333 to €3,041. There is a complete mismatch here, with the associated acromioplasty

decreasing the reimbursement of the open procedure, while increasing the reimbursement of the arthroscopic operation.

This discrepancy becomes even more evident when considering the costs of the two operations. The DRG of an open rotator cuff repair (with or without associated acromioplasty) covers two nights of hospitalization (€600, as decided by the health system), implanted materials, occupation of the operating room (€300 for 60 minutes), and “various” other costs (€100 for drugs, sutures, surgical drapes, etc.). Because the repair is usually performed through a transosseus technique, the implanted materials only include 2 to 4 nonabsorbable sutures (€4 each). So the total cost for an open rotator cuff repair (with or without an acromioplasty) is €1,016, while the reimbursement varies from €4,303 (isolated repair) to €3,041 (repair associated with acromioplasty).

The DRG of an arthroscopic rotator cuff repair covers two nights of hospitalization (€600), tools (€480 for burr and shaver, €290 for an arthroscopic cautery device, and €44 for 1 cannula), occupation of the operating room (€300 for 60 minutes), and “various” other costs (€100). Depending on the tear pattern, the price for implanted materials may vary from €497 (single metallic anchor) to €2,110 for a double-row repair with 2 medial absorbable anchors and 2 lateral knotless anchors. So the overall cost of an arthroscopic procedure varies from €1,911 to €3,524. However, the reimbursement for arthroscopic repair, which varies from €1,333 (isolated repair) to €3,041 (associated acromioplasty), does not cover those costs.

It is evident from these data that the DRG-based system Italy does not cover the costs of arthroscopic rotator cuff procedures. These data may partially explain why more expensive surgical options, such as double-row repair, are less common in countries where reimbursement is set on a DRG model. Public health systems should take this discrepancy into account. Surgeons’ choices should be based primarily on the individual patient’s benefits and outcomes, with secondary consideration given to social cost and economic reimbursement. We should continue to strive to have these goals align.

Conflict of Interest: None Declared