

Cardiopulmonary Bypass And thyroid Function : In Valvular Replacement Patients

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The purpose of this prospective study was to define the effect of cardiopulmonary bypass on thyroid function in 25 patients undergoing valvular replacement surgery. Serum samples were obtained before anesthesia, half an hour after bypass and at 1 and 24 hours postoperatively. Thyroid-stimulating hormone (TSH), thyroxine (T4), triiodothyronine (T3), free T4 and reverse T3 levels were measured by chemiluminescent assay. Values of TSH, T4, T3, free T4 were significantly decreased up to 24 hours after bypass ($p < 0.001$) while reverse T3 level increased approximately two folds postoperatively ($P < 0.001$). These results indicate that cardiopulmonary bypass triggered changes in thyroid function. These changes simulated low T3 syndrome and are progressively exacerbated during postoperative period.