

INTRACAVITARY AMINOGLYCOSIDES AND ACUTE TUBULAR NECROSIS

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A 67 year old woman underwent a pneumonectomy for stage IIB adenocarcinoma of the lung. Her creatinine was 0.7mg/dL 2 weeks prior to surgery. Prophylactic pleural irrigation was performed intraoperatively with gentamicin 80mg, neomycin, and polymixin B. Her post-operative course was complicated by hypercarbic respiratory failure thought secondary to prolonged neuromuscular blockade related to gentamicin with a level of 2.2mg/dl 10 hours after surgery. 2 doses of intravenous ketorolac were given for incisional pain. Her creatinine rose to 7 mg/dl by post-operative day 3 and dialysis was initiated. She remained nonoliguric and had persistent hypokalemia. Her urine sediment revealed moderate numbers of muddy brown granular casts. She developed an erythematous macular rash prompting a renal biopsy revealing tubular damage, numerous cellular casts, simplification of tubules and nucleated cells in the peritubular capillaries favoring a diagnosis of acute tubular necrosis. A background patchy interstitial inflammatory infiltrate was noted but felt not to be the primary disorder. The rash resolved, however she remained nonoliguric and dialysis dependent.

Our patient developed acute tubular necrosis in the setting of intrapleural gentamicin exposure. Her clinical course of nonoliguria and electrolyte wasting is consistent with gentamicin toxicity. A non critical level was obtained but peak levels were not established. Intrapleural gentamicin should be identified as a potential cause of acute kidney injury in the setting of thoracic surgery. We recommend that renal function be assessed directly prior to use of intrapleural aminoglycosides. Nephrologists should be cognizant of the potential nephrotoxicity in irrigants used in surgical procedures.

