

Clinical and Medical Case Reports

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Rapid resolution of high-output chylothorax with reduction of spinal subluxation

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Case Description: A, 2-year-old generally healthy boy with a history of limping gait presented and was admitted to a community hospital with severe Influenza A illness. There, he was intubated for refractory hypoxia and found to have large bilateral pleural effusions. Bilateral chest tubes were inserted, draining > 1 L of milky fluid combined. He was transferred to the regional pediatric intensive care unit. With the effusions drained, he was easily extubated and biochemical testing confirmed the fluid to be chyle (triglyceride level = 3.48 mmol/L). Computed tomography scanning of the chest and abdomen was subsequently negative for malignancy, but incidentally found rib fractures, scapular fracture, and an unstable spinal subluxation (T11-L1). In the interim and during spinal surgical planning, the high-output chylothorax continued despite several days of NPO status with total parenteral nutrition (> 1L/d or > 50mL/kg/d). Following reduction and partial fixation of the spinal subluxation, the pleural drainage immediately ceased. Within 24-hours following surgery, the drainage became < 50mL/d. Two weeks later, the chylous drainage remained absent with the patient on a full enteral medium-chain triglyceride containing diet.

Discussion: Acquired chylothorax in pediatrics is typically associated with mediastinal pathology (e.g. trauma, infiltrative), obstruction of drainage, or abnormal lymphatic vessel development. Case reports of chylothorax developing following spinal trauma and manipulation exist. This is, however, the first report to our knowledge of chylothorax resolution as a result of a spinal intervention. Potential mechanisms include relief of obstruction of the cisterna chyli, the large lymphatic reservoir typically located adjacent to the L1-L2 vertebral bodies. Patients with chylothorax in the context of thoracolumbar spinal pathology may warrant consideration of an intervention aimed at relieving any potential lymphatic obstruction.

Biography

Ronish Gupta is a pediatric intensivist at the McMaster Children's Hospital and an Assistant Professor with McMaster University. He completed medical training at Queen's University in Kingston, Canada. This was followed by residency and fellowship training at the University of Ottawa, Canada. His academic interests revolve around medical education and include critical care simulation, interprofessional curriculum development, and resident selection. He also regularly utilizes noteworthy case reports as a means of scholarship and teaching.

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