Life threatening mediastinal haematoma: a complication of central venous catheterization

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Abstract

Central venous catheterization (CVC) has established risks and benefits in its application as a vascular access source, particularly in situations involving temporary cannulation. We present a rare case of life-threatening mediastinal haematoma resulting from CVC usage. Even though aggressive intervention yielded survival, the patient was left with permanent vocal compromise owing to traumatic palsy of the right recurrent laryngeal nerve. One should be careful in selection of venous access and be aware of alternatives routes.

Introduction

Central venous catheterization (CVC) is employed globally with increasing frequency as a multipurpose tool. Though a useful source of temporary access for monitoring and interventional purposes, it carries a variety of potential perils. We present a patient who suffered serious adverse effects of CVC usage, and recommend caution during interventional usage.

Case Report

A 55 years old male underwent direct compression plating for a right tibial and fibular fracture acquired in a motor vehicle accident. Despite being a known case of chronic renal failure, he was maintained on intravenous antibiotics and analgesics during the post-operative period, including gentamicin and diclofenac respectively. Whilst the orthopaedic care was being weaned off, he developed an abrupt decline in urinary output amid a clinical picture suggestive of fluid overload along with raised blood urea nitrogen and creatinine levels. Ultrasound
other alternatives may be unavailable.3,4
vascular access, often necessitated in acute situations when
dence to support usage of CVCs as a temporary source of
nance, lesser expense and complication rates. There is evi-
aries, keeping in view their potentially lethal complica-
cautious and judicious in the use of interventional tech-
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Discussion

Acute renal failure is not an uncommon occurrence in hospital admissions. It is often a complication of a multi-
tude of diseases and a major source of morbidity and mort-
tality, owing typically to the serious underlying pathologies present amongst inpatients. Intrinsic renal failure, as in this case, has been associated with usage of both diclofenac and gentamicin.1,2

Haemodialysis is usually indicated in a clinical picture of uraemia. The choice for venous access is a subject of some controversy globally. Considerable variation exists in the usage of CVCs, arteriovenous fistulae and grafts, owing to alterations in local preferences and perceived patient variables. Consensus exists regarding the creation of arteriove-

CVCs are being increasingly used in modern tertiary care setup for indications such as; hemodynamic monitoring in unstable patients, chemotherapy in oncology ward, total parenteral nutrition and delivery of antibiotics, blood prod-

Our case illustrates the potentially fatal nature of CVC usage. The case is unique and instructional in a multi-
disciplinary environment. An orthopaedic patient, already a known case of chronic renal compromise, went into acute renal failure owing to in-hospital pharamacotherapy using agents with established nephrotoxicity. Even though tempo-
rary venous cannulation may be justified, no attempt at native venous access had been sought in the past on this patient who was already on dialysis for chronic renal fail-
ure. Subsequent central catheterization led to life-threatening haematoma requiring aggressive surgical intervention and intensive care monitoring. Despite a favourable out-
come, the patient was left with life long phonation compromise, presumably secondary to the traumatic complication of CVC.

Even though ultrasonic and electrocardiographic guidance may greatly facilitate central catheterization in modern facilities8,9, adequate knowledge of anatomy and health care staff experience remain important limiting fac-
tors universally.10 Primarily placed as a 'suitable alternative', overzealous CVC usage may compromise the success of future permanent vascular access and generate subopti-
mal "dialysis delivery. One must avoid unnecessary vascula-
catheter insertions even for short-term use in chronica-

In conclusion our case affords a variety of lessons for the modem health care provider. One must use pharma-
cotherapy sensibly (especially in premorbid individuals), provide proper training of medical and nursing staff, and be

References


