Original Research Paper

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A CASE REPORT ON SYSTEMATIC MANAGEMENT OF POSTPARTUM FEMORAL ARTERY THROMBOSIS, AS A CONSEQUENCE OF UTERINE ARTERY EMBOLIZATION TO MANAGE POSTPARTUM HAEMORRHAGE, FROM INDIAN GOVERNMENT BASED TERTIARY HEALTHCARE

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ABSTRACT Femoral artery thrombosis occurred due to in situ catheter used to embolize uterine artery to manage postpartum haemorrhage. Catheter kept inside due to severe DIC. Possibly, thrombosis was preventable if heparin saline flushes were used in regular intervals. Hence, proper handover after each procedure is necessary to prevent unwanted loss of health, wealth and time.

KEYWORDS :

INTRODUCTION

In trauma/emergency we cater patient care by using a triage. In emergency, no doubt requires a prioritisation of attention ranging from extreme priority to least priority and while managing a patient who is already managed in ICU, we often miss some important scenarios specially during handover. Effective communication is integral to patient safety, especially during high-risk periods where patients are transitioning to different care areas or to different providers. However, communication failures continue to occur. The operating room (OR), the postanaesthetic care unit (PACU), and the intensive care unit (ICU) are especially vulnerable to communication failures between providers.[1]

Randmaa M, Engström M, Swenne CL, *et al* told that variations in different professionals' views on the handover and interventions are needed to minimise the gap between professionals' perceptions and practices and to achieve a shared understanding of postoperative handover.[2] Jones PM, Cherry RA, Allen BN, et al found In a retrospective cohort study over 313 066 adults undergoing major surgery, that complete intraoperative handover of anaesthesia care compared with no handover was significantly associated with a higher risk of a composite of all-cause death, hospital readmission, or major postoperative complications over 30 days (44% vs 29%).[3] The World Health Organisation listed "Communication during patient care handovers" as one of its 5 point safety initiatives.[4]

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The handover consists of three key aspects: transfer of (1) information, (2) responsibility and/or accountability, in (3) the context of teams and their work environments.[5]

Standardised and through communication of critical information is essential for patient safety.

CASE SCENARIO

26years old woman (P2L2) having no comorbidity, was admitted in ICU (Post Graduate Institute of Medical education and Research, Chandigarh, India) on 21.11.20 after complete hysterectomy and with history of multiple transfusion due to post-partum haemorrhage and has a history of failed extubating trial in Clean Labour Room Operation theatre (CLR OT). She was received in a state of E3V5M5 state with noradrenaline infusion [0.25mcg/kg/min) going through Right IJV which was put at CLR OT.

Patient was put on ventilator under morphine sedation and intra-arterial line was taken at right post tibial artery near ankle for invasive BP monitoring.

Blood and blood products were transfused in ICU to deal with hypotension and anaemia. However, decision was taken for uterine artery embolization on 22.11.20 midnight as the abdominal surgical drain output of blood was around 500ml.

In DSA room, 5F right femoral sheath was put under USG guidance by senior resident of radiology department. According to SR (Senior Resident) Radiology, the calibre of femoral artery was small and almost equal to the calibre of catheter. Radiology SR did uterine, ovarian and internal iliac artery embolization in presence of Anaesthesia SR. One episode of on table bradycardia was noted and managed by anaesthesia SR. At the end of procedure, Radiology SR kept this sheath and asked Anaesthesia SR to flush with heparin water every four hourly, however, didn't inform or mention in notes how much fluid at what ratio to be flushed every four hourly.

The patient was transferred to Advanced Trauma Centre (ATC) ICU and handed over to ICU team, but Neuro-Anaesthesia SR was forgot to highlight about four hourly flushes of in situ femoral sheath.

In ATC ICU, invasive BP line was connected with this femoral line which flushes the line with 3ml of Heparin-Saline (2:1) per hour.

ICU resident noted that BP was not improving and drain output was still coming from abdomen. So, decided and opened the abdomen approximately 4 hours after DSA. Time was consumed on decision making mainly. Exploratory laparotomy was done and approximately one kidney-tray full of blood clot was removed from peritoneal cavity however no active bleeder was found so abdomen was closed. During perineal cleaning OBG Consultant noted she could not bend left leg at knee and it was cold as compared to right lower limb.

Radiology SR who did DSA was called at ICU and she found there was no flow through left femoral artery. So, she removed the sheath after consulting her consultant. At that time, ICU resident were come to know about four hourly Cather sheath flush from radiology SR.

Vascular surgery team were called for evaluation and they decided for exploration. Almost 10 hours after DSA, left lower limb arteriotomy was done under General Anaesthesia in presence of Anaesthesia consultant and nearly 10cc of blood clot was removed from common iliac artery near bifurcation by 3-4F Fogarty catheter. Approximately 500ml of flushed blood from left lower limb was discarded to prevent reperfusion injury and patient was resuscitated with blood and blood products at OT table. Fasciotomy was done at calf region and arteriotomy region was secured, Patient was shifted back to ICU and kept sedated on mechanical ventilation. Vasoconstrictor was tapered off within a day kept on conservative management.

Good peripheral perfusion was noted in both by clinical and Doppler findings. Sensory function was intact and motor function couldn't be evaluated as the patient was on sedation.

Initially urine output was around 40-60ml/hour for 2days but later myoglobinuria was developed and she landed up in AKI on next day. One evaluation features of fluid overload was present and pulmonary edema was developed.

After three cycles of Haemodialysis, pulmonary edema was settled, and patient was extubated early morning on 30.11.20. Though Initially serum procalcitonin was too high and evidence of thrombocytopenia without any episode of fever, these were settled over one week on triple antibiotic coverage (Meropenem, Tigecycline and Colistin) throughout.

Still on 01.12.20 she has features of delirium and decreased power of left lower limb. It's expected that the power of left lower limb may be increased over time through proper physiotherapy, but the best thing was limb was saved which was supposed to be lost due to secondary insult.

DISCUSSION

This case scenario is an appropriate example of poor handover. The bleeding per abdomen patient with hemodynamic instability was given priority first and the possibilities of femoral arterial thrombus formation was truly under looked.

But the drawback of prioritisation is that the least worrisome things can often ignored. But sometimes the least prioritised thing according to us can create massive issues if ignored, that happened in this case. Bangalore S, Bhatt DL revealed that vascular complications are the most common complication during either diagnostic or interventional procedures.[6] Prevention of vascular complications starts with good "access hygiene,", use of smaller catheters (4F to 5F for diagnostic catheterization), and prompt removal of sheaths whenever possible.[6] The medical staff was busy and focused on managing the case, rule out its causes and to think further cause of action but unaware about the thrombosis which was developing due to in situ femoral sheath as a consequence of DIC.

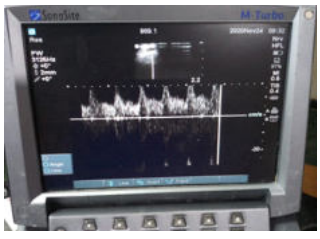
The factors related to it were hazy handovers given with priority to shift the patient as soon as possible to ICU. Jones P.M., Cherry R.A, Allen B.N. et al stated, it is possible that the lack of transfer of relevant and important information about patient care can compromise patient safety.[7] Detailed procedure description, gadgets in situ and their care were missed during handovers and that too in emergency scenario despite the fact "handover may be an opportunity to correct errors and optimise patient care".[8]

We want to emphasise that a safe and standardized handover can prevent this kind of incidence in future. Standardization of handover may include the use of protocols, checklists, mnemonics, digital programs or apps, or other cognitive aids.[9]

CONCLUSION

A checklist to be followed for safe handover, so that one can prioritise important aspects systematically and don't miss a thing.

FEMORAL THROMBUS



POST EMBOLECTOMY DORSALIS PEDIS DOPPLER

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