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Case Report

Perioperative antiplatelet management in ischaemic heart disease with left ventricular apical thrombus: complex fistula-in-ano surgery in a patient with uncontrolled type 2 diabetes and scabies

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Abstract

Objective: To describe the pharmacotherapeutic and perioperative management of a patient in whom urgent drainage of a perianal abscess conflicted with the need for continued antiplatelet protection of a diseased left ventricle containing apical thrombus, and in whom uncontrolled diabetes and scabies further complicated treatment.

Design: Single-patient case report from the surgical and medical units of a tertiary care teaching hospital in northern Karnataka, India, prepared from the hospital case record after written informed consent.

Intervention: Multidisciplinary care involving cautious peri-procedural handling of clopidogrel and aspirin, continuation of anti-ischaemic therapy, transfer from oral antidiabetic drugs to a basal-bolus insulin regimen, empirical metronidazole-based broad-spectrum antibiotic therapy, topical treatment for scabies, and fistulectomy with drainage under spinal anaesthesia.

Main outcome measures: Perioperative cardiac events, bleeding complications, glycaemic control, wound healing and discharge status.

Results: A 39-year-old man with ischaemic heart disease, an ejection fraction of 45% and a layered left ventricular apical thrombus presented with a perianal abscess overlying a complex trans-sphincteric fistula-in-ano. Glycated haemoglobin was 13.1%. Drainage was initially deferred while clopidogrel was withheld, and during this interval he developed a fresh anterior ischaemic event. After multidisciplinary optimisation, fistulectomy with drainage was performed under spinal anaesthesia. Recovery was uneventful, with no cardiac event, no significant bleeding and satisfactory wound healing.

Conclusion: When thrombotic and haemorrhagic risks conflict, individualised timing of antithrombotic therapy and coordinated multidisciplinary planning, rather than reflexive withdrawal of antiplatelet drugs, allow necessary surgery to proceed safely.

Keywords: clopidogrel, perianal abscess, perioperative care, left ventricular thrombus, spinal anaesthesia, insulin therapy.

INTRODUCTION

A perianal abscess is a collection of pus adjacent to the anus, and it frequently overlies a fistula-in-ano, a chronic tract running between the anal canal and the perianal skin.[1] Treatment is simple in principle: incise and drain. In practice, the timing of drainage sometimes depends less on the surgeon than on the drugs the patient is already taking. Antiplatelet agents such as clopidogrel and aspirin protect the heart, but they also increase bleeding, so they are usually withheld before procedures that carry a haemorrhagic risk.[2] The difficulty arises when the same drug is guarding against something dangerous. Withdrawing it in a patient with recent myocardial ischaemia, or with thrombus inside a cardiac chamber, can precipitate a fresh coronary event or embolisation.

Uncontrolled diabetes compounds the problem. Hyperglycaemia impairs host defence and wound healing, and it is a recognised reason for anorectal infections to form, recur and spread; any delay in draining an abscess is therefore especially hazardous in

a poorly controlled diabetic patient.[3] A coexisting skin infestation such as scabies adds to the drug burden and to the potential for interactions. We report a patient in whom all of these threads converged, and we set out the pharmacotherapeutic reasoning that allowed him to undergo surgery safely.

OBJECTIVE

To describe the clinical course, drug therapy decisions and outcome of a patient requiring surgical drainage of a perianal abscess while receiving antiplatelet therapy for ischaemic heart disease with left ventricular apical thrombus, and to discuss the principles that guided the balancing of thrombotic and bleeding risk alongside glycaemic and infective control.

MATERIALS AND METHODS

This is a single-patient case report prepared in the Departments of General Surgery and General Medicine of a 1,200-bed tertiary care teaching hospital in northern Karnataka, India, with clinical pharmacy input from the Department of Pharmacy Practice of the affiliated college. The patient was followed by the clinical pharmacy team from admission to discharge.

Demographic details, presenting complaints, past medical and medication history, physical findings, laboratory and radiological investigations, drug therapy and outcome were recorded from the hospital case record and the treatment chart in a structured case data collection form. Drug therapy was reviewed daily against the patient's cardiac, glycaemic and infective status, and perioperative antithrombotic decisions were taken jointly by the surgical, medical, cardiology and anaesthesia teams. Laboratory values were compared with the reference ranges of the hospital's central laboratory. Written informed consent was obtained from the patient for publication of his clinical details and images, and all identifying information has been removed. Institutional ethics committee approval was not required for the publication of a single-patient case report.

RESULTS

Presentation and history. A 39-year-old man presented with a perineal swelling of about 15 days' duration and pain in the area for about 10 days. The swelling had begun at roughly 1 × 1 cm and had enlarged gradually. The pain was throbbing, worse on sitting, and only partly relieved by analgesics. He reported no fever, purulent discharge or change in bowel habit. He had a 4-year history of type 2 diabetes mellitus and known ischaemic heart disease, for which he was taking clopidogrel, aspirin, metoprolol, nicorandil, a torsemide-based diuretic and a statin. Echocardiography performed a few weeks earlier had already shown impaired systolic function, with an ejection fraction of 45% and a layered thrombus at the left ventricular apex. He had chewed tobacco and consumed alcohol for about 20 years each. There was no history of hypertension, asthma or epilepsy.

Clinical course before surgical admission. The patient was first seen by the medical team, who identified the perineal abscess and requested a surgical review. Drainage was not performed at that point, and the reason was central to the case: because he was receiving clopidogrel, the drug was stopped first, with a plan to drain the abscess later. Around the same time he developed weakness of both lower limbs, and an electrocardiogram recorded during this period showed ST-segment elevation with T-wave inversion in the anterior precordial leads, indicating a fresh ischaemic event superimposed on his known disease (Figure 1). The anterior territory implicated by the electrocardiogram corresponded to the hypokinetic segments on echocardiography and to the vessel involved on angiography. He was therefore caught between two dangers: operating while platelet function was inhibited, and withholding antiplatelet therapy while thrombus remained in the left ventricle.

Examination. At surgical admission he was moderately built, alert and afebrile. Blood pressure was 120/70 mmHg, pulse rate 76–82 beats per minute and oxygen saturation 98% on room air. The perineum showed a single, oval, tender, warm swelling of about 3 × 2 cm below the scrotum, without discharge. The remainder of the examination was unremarkable. A dermatological review during the stay identified scabies, and topical treatment was started (Figure 2).

Investigations. Key laboratory findings are summarised in Table 1. Glycated haemoglobin (HbA1c) was markedly elevated at 13.1%, confirming poor glycaemic control; renal function, electrolytes, liver function tests and blood counts were acceptable. Gram staining of the pus showed numerous inflammatory cells and a few Gram-negative bacilli, but neither pus nor tissue grew any organism. Perineal ultrasonography revealed an ill-defined collection of about 3.1 × 4.1 × 1 cm (approximately 7.5 mL) in the left subcutaneous plane with surrounding oedema, consistent with an abscess. Magnetic resonance imaging (MRI) fistulography mapped a complex tract with its internal opening at the 4 o'clock position and a pararectal collection. Abdominal ultrasonography showed grade I fatty liver.

Cardiac evaluation. Echocardiography confirmed ischaemic heart disease with a regional wall-motion abnormality (hypokinesia of the mid anteroseptum, anterior wall, apical septum and apex, with preserved wall thickness), a layered apical thrombus of about 2.4 × 1.4 cm, mild mitral and tricuspid regurgitation, normal chamber dimensions, normal pulmonary pressures and an ejection fraction of 45%. Coronary angiography showed single-vessel disease, which the cardiologists elected to manage medically rather than by stenting. Together with the recent ischaemic event, these findings placed him at high risk for anaesthesia and surgery.

Treatment. The teams then worked in parallel. The medical and endocrinology teams transferred him to a basal-bolus insulin regimen, with basal insulin and short-acting prandial doses titrated against regular capillary glucose readings, so that glycaemia was within a safe range before theatre. The cardiologists continued his anti-ischaemic therapy and planned the handling of antiplatelet drugs, which were managed cautiously and

only around the procedure itself, with each decision weighed against the expected surgical bleeding. Empirical antibiotic therapy with intravenous metronidazole and a broad-spectrum partner agent was started to cover the mixed anaerobic and Gram-negative flora typical of perianal infections, even though cultures were sterile. Scabies was treated topically alongside, and he received a diabetic diet and analgesia.

Surgery and outcome. Once glycaemia had settled and his cardiac status was optimised, he underwent fistulectomy with drainage under spinal anaesthesia, after high-risk consent that explicitly addressed the cardiac disease and the ventricular thrombus. In the lithotomy position, methylene blue was injected through the external opening, and the internal opening was identified high at the 4 o'clock position. The trans-sphincteric tract was laid open and curetted, haemostasis was secured, and the wound was irrigated and packed. He was transferred to the surgical intensive care unit postoperatively. The final diagnosis was a high trans-sphincteric anal fistula with type 2 diabetes mellitus. Recovery was uneventful, with no cardiac event, no significant bleeding and satisfactory wound healing. He was discharged in a stable condition on adjusted antidiabetic and cardiac therapy, with advice on wound care, glucose monitoring and follow-up.

Table 1: Summary of key laboratory investigations

Parameter	Observed value	Reference range
Fasting blood glucose	136.2–168.9 mg/dL	70–100 mg/dL
Post-prandial blood glucose	164.2–166.0 mg/dL	<140 mg/dL
HbA1c	13.1%	<6% (pre-diabetic 6–6.5%)
Blood urea	21.0 mg/dL	15–39 mg/dL
Serum creatinine	0.9 mg/dL	0.6–1.3 mg/dL
Serum sodium / potassium	134–138 / 4.2–4.6 mEq/L	135–153 / 3.5–5.5 mEq/L
Haemoglobin	13.0 g/dL	13.0–18.0 g/dL
Total leucocyte count	6000 cells/mm^3	4000–11,000 cells/mm^3
Platelet count	2.97×10^5/mm^3	$1.5–4.0 \times 10^5$/mm^3
Liver function tests	Within normal limits	–
Pus Gram stain	Many inflammatory cells; few Gram-negative bacilli	–
Pus and tissue culture	No growth	–

HbA1c: glycated haemoglobin.

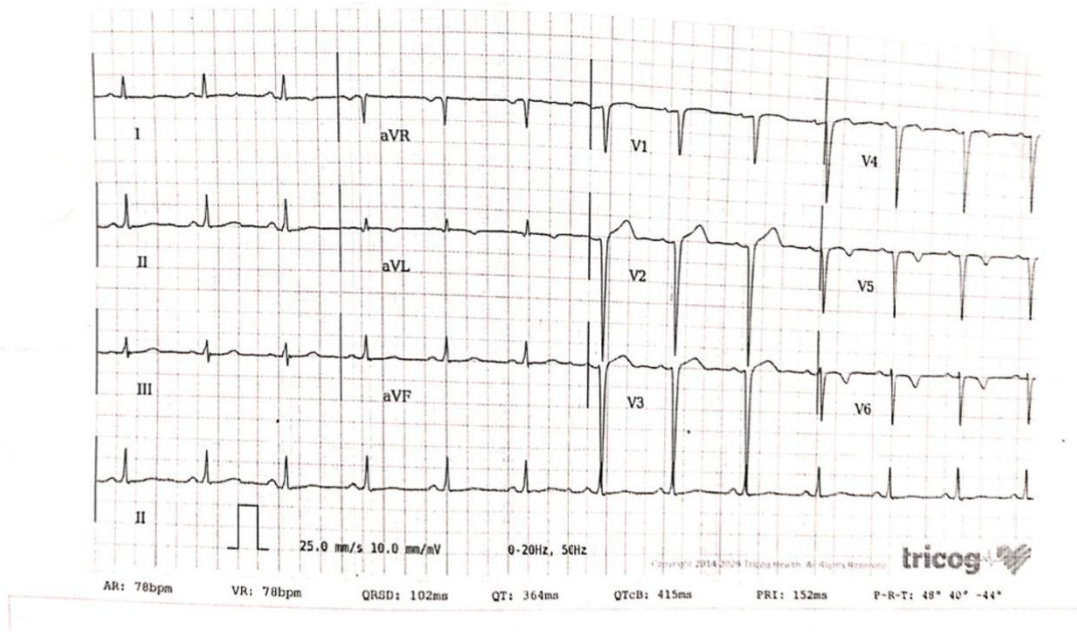


Figure 1: Twelve-lead electrocardiogram recorded during admission, showing sinus rhythm at 78 beats per minute with normal PR (152 ms), QRS (102 ms) and corrected QT (415 ms) intervals, together with ST-segment elevation and T-wave inversion in the anterior precordial leads (V2–V3) and T-wave inversion extending to V4–V6, in keeping with anterior myocardial ischaemia. Patient identifiers have been masked.



Figure 2: Clinical photograph showing numerous discrete, closely set papules with hyperpigmentation over the affected skin, consistent with the scabies infestation confirmed by the dermatologist during admission.

DISCUSSION

This case is worth reporting not for the fistula itself but for everything that stood in the way of treating it. Four problems had to be handled at once: antiplatelet therapy, glycaemic control, infection and anaesthesia. The most difficult, and the one that delayed surgery, was the conflict between antiplatelet therapy and the need for a controlled operative field.

The abscess needed early drainage, and it was deferred because the patient was taking clopidogrel. Clopidogrel and aspirin inhibit platelets irreversibly for the lifespan of the platelet, making haemostasis more difficult, and clopidogrel is routinely withheld for several days before procedures with a meaningful bleeding risk.[2] For most patients that is sensible. This patient was different. The same drug was protecting a diseased, impaired ventricle harbouring apical thrombus, and soon after it was stopped he developed a fresh ischaemic event together with bilateral lower-limb weakness, which raised concern for embolisation from the ventricular thrombus. Each option therefore carried real risk. Withdrawing antithrombotic cover exposes the patient to recurrent ischaemia, thrombus propagation and systemic embolism;[4] continuing it makes drainage unsafe, and an undrained abscess in a patient with an HbA1c of 13.1% can progress to spreading infection and sepsis. No formula resolves this conflict. It is resolved by timing the drugs around the operation and involving the right specialists early, which is what happened here.

Hyperglycaemia amplified the whole problem. Glucose levels of this magnitude impair neutrophil function, delay healing and predispose to infection, so leaving the abscess undrained was doubly hazardous.[3] Insulin was the appropriate means of lowering glucose rapidly, because it can be titrated around fasting and surgical stress in a way that oral agents cannot. A basal-bolus regimen with close monitoring achieved a safe range without causing hypoglycaemia.

Antibiotic selection posed a smaller challenge. Cultures were sterile, yet the Gram stain showed inflammatory cells and Gram-negative bacilli, and perianal infections are almost always polymicrobial with a substantial anaerobic component. A metronidazole-based broad-spectrum combination was a reasonable empirical choice, and a negative culture, which may reflect prior antibiotic exposure or fastidious organisms, was not a reason to narrow cover in a diabetic patient at risk of spreading soft-tissue infection.[5] Scabies was minor by comparison, but it required its own topical therapy and was a reminder to keep the complete medication list under review.

Finally, the choice of anaesthesia mattered. Spinal anaesthesia avoided the haemodynamic fluctuations and airway manipulation of general anaesthesia in a patient with limited cardiac reserve and ventricular thrombus, while still providing good operating conditions for a perineal procedure. Recovery without a cardiac event or bleeding reflects the value of coordinated, team-based management of drug therapy and its timing. The main limitation of this report is that it describes a single patient, whose management was guided by clinical judgement rather than by trial evidence, and the findings should be interpreted accordingly.

CONCLUSION

A perianal abscess is a small problem until it occurs in a patient receiving antiplatelet therapy, with ventricular thrombus, uncontrolled glycaemia and a coexisting skin infestation. The trap in such a patient is the reflex to stop the antiplatelet drug and drain the abscess, because that reflex overlooks the heart. The two demands must be balanced rather than traded off blindly. In this patient, careful peri-procedural handling of antiplatelet drugs,

insulin for glycaemic control, rational empirical antibiotics and spinal anaesthesia, coordinated by a multidisciplinary team that included clinical pharmacy, allowed safe surgery. When a patient carries this many problems at once, how the drugs are managed can matter as much as the operation itself.

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