

A Retrospective Audit of Perioperative Management of Anaemia in Patients Undergoing Elective Primary Total Hip Replacement in a District General Hospital

Rathod N¹, Sugai T.²

Department of Anaesthetics¹, Department of Haematology², The Hillingdon Hospitals NHS Foundation Trust

Introduction

Perioperative optimisation of haemoglobin is a key aspect of Patient Blood Management. The International Consensus Statement for perioperative management of anaemia and iron deficiency proposed a nine-point strategy to improve patient care and minimise transfusion associated adverse events. We conducted a retrospective audit comparing current practice at Mount Vernon Hospital against best-practice recommendations made by the Consensus Statement. Adverse events up to 6 months following surgery were also recorded.

Methods

Elective Primary Total Hip Replacement (THR) cases occurring at Mount Vernon Hospital between 2017 and 2019 was obtained from: SunQuest ICE, EPRO, Hillingdon Care Record and iReporter. Anaemia was defined as Haemoglobin (Hb) of <130g/L; iron deficiency was defined as serum ferritin <30ug/l. Adverse events up to 6 months following surgery were measured; this consisted of: vascular events (venous thromboembolism, cerebrovascular events and acute coronary syndrome), acute kidney injury (AKI), infection and falls.

Fig 1: Cohort Group Representation, n = 82

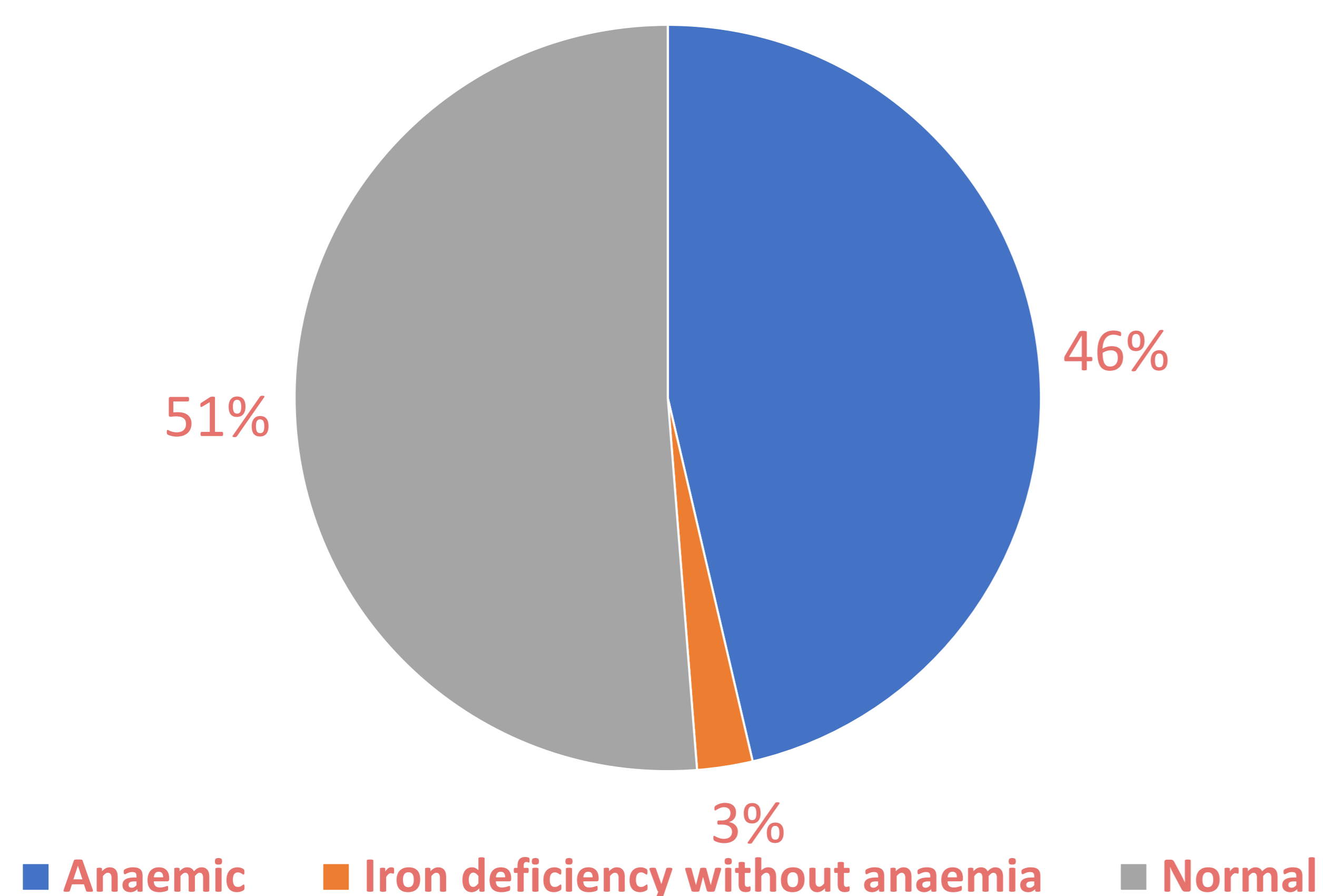
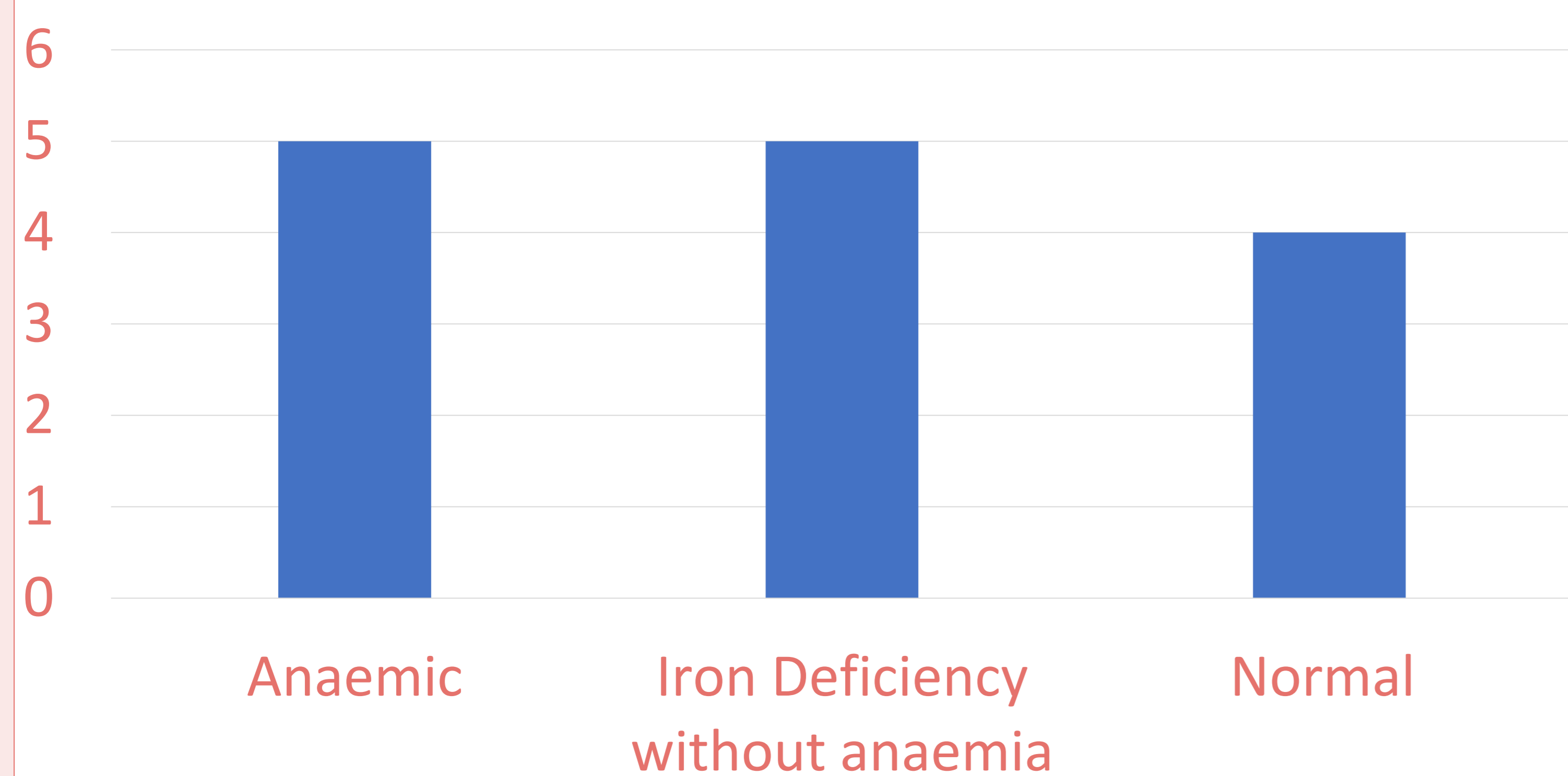


Fig 2: Median Length of Stay (Days)



Results

Of the nine-point best practice guidance highlighted by the Consensus Statement, only 1 point was followed: 100% of patients were investigated for the presence of anaemia with full blood count (FBC) and ferritin testing.

Median time between initial preoperative assessment and surgery was 62 days. No patients with anaemia or iron deficiency received corrective treatment with oral or intravenous iron before surgery. Preoperative anaemic and iron deficient patients had a median length of stay of 5 days compared to 4 days in those without anaemia or iron deficiency.

Fig 3: Percentage Compliance with International Consensus Guidelines (%)

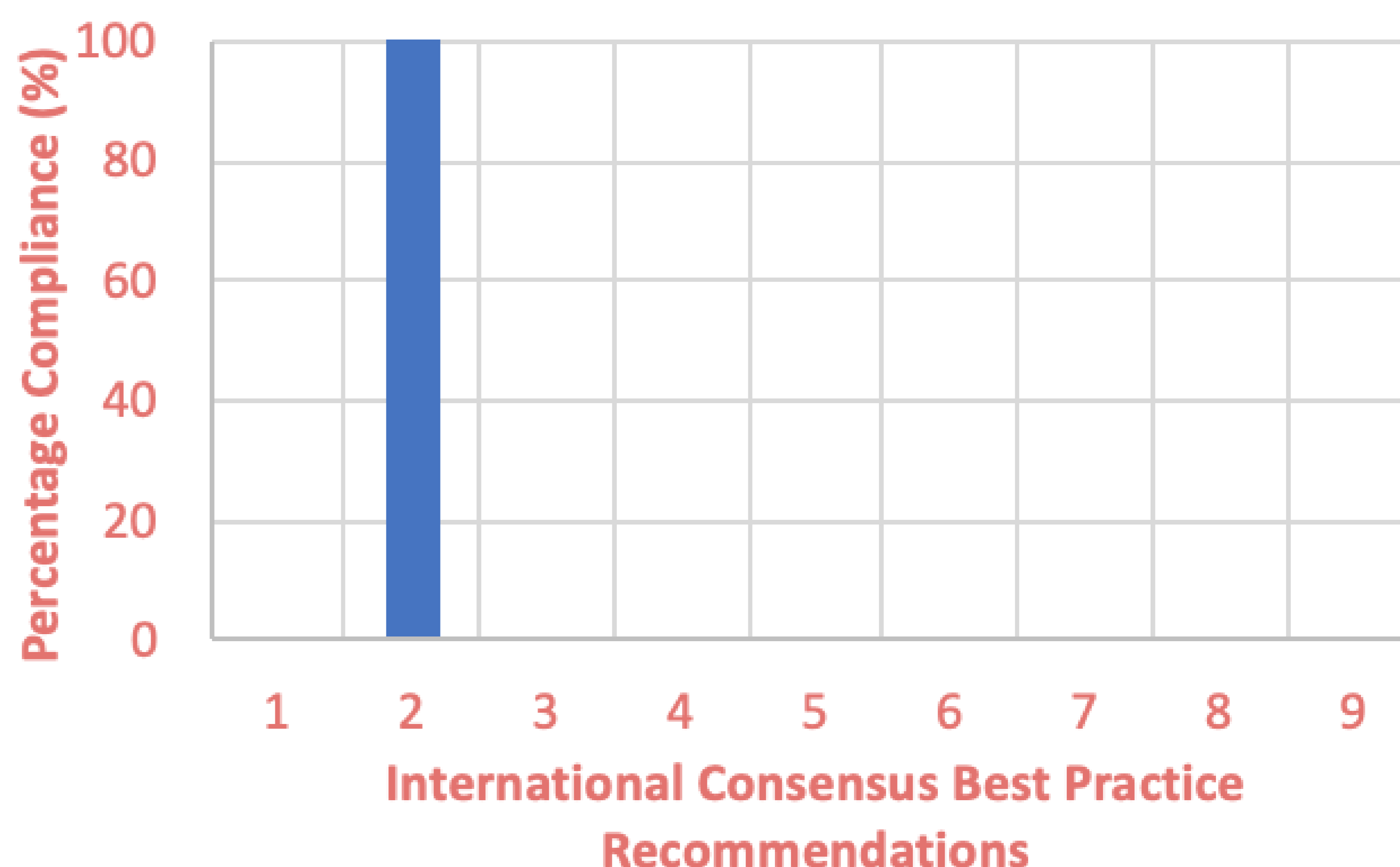


Fig 4: Adverse Outcomes by Cohort

	Anaemic		Iron deficiency without anaemia		Normal	
	No.	%	No.	%	No.	%
	38	46.3	2	2.4	42	51.2
Postoperative Adverse Outcome Cases						
RBC transfusions (Units)	11		0		2	
Postoperative infection	6		0		5	
Falls	2		0		2	
AKI (Acute Kidney Injury)	1		0		1	
Vascular Events	1		0		2	

Recommendations

Our data highlighted a lack of compliance with 8 of 9 key strategies outlined in the Consensus Statement. All patients had preoperative FBC and ferritin testing but those with anaemia or iron deficiency had no corrective treatment prior to surgery despite a median of 62 days between initial preoperative assessment and surgery. Prolonged length of hospital stay and more than a 3-fold increase in postoperative transfusions were observed in this cohort. Although the rate of adverse events is comparable between patients with perioperative anaemia to those without, the audit highlights the need for incorporating the consensus recommendations to the trust perioperative pathway. Regional or national collaboration is needed to increase the sample size to obtain more meaningful data on postoperative adverse outcomes for future audit cycles.