

2019 Re-audit of the Medical Use of Red Cells



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Background

Approximately two thirds of all red cell transfusions are administered for a 'medical' indication (1), around 900,000 units in England every year. As with all blood, medical transfusions are mainly given to older people, but with a range that is skewed towards the 'older' part of the overall distribution. As a result of this and other factors, the dramatic fall in the use of red cells seen in the last 20 years has impacted less on medical transfusion than other specialties such as surgery.

Randomised controlled trials examining transfusion thresholds in 'medical' settings are fewer than in surgery and critical care, but important evidence is available and national guidelines and NICE Quality Standards have been available for several years. In addition, Patient Blood Management is now a well-established initiative, generating international consensus guidelines to ensure that transfusion practice in all clinical areas is evidence-based, carefully risk-assessed and prioritises alternatives to transfusion where appropriate, with a clear emphasis on patient involvement in transfusion decisions whenever possible.

Hopefully, most NHS Trusts will have audited their practice against the available standards, analysed any sub-optimal results and put in place improvement measures to try to reduce any gaps. One of the aims of this audit is to allow Trusts to benchmark their performance against the national 'average'.

Much transfusion practice in medical settings happens under pressured circumstances, both on an individual patient clinical level, and a service level. The last two years have increased the service pressures to unprecedented levels, but this audit captures practice just prior to the COVID-19 pandemic, and hopefully will still provide a useful reflection for departments and Trusts on their practice in less unusual times.

Participation



161 hospitals/trusts enrolled in the organisational audit



5155 patients were audited

Key findings of 2019 audit



96% (4930/5129) of audited patients had a pre-transfusion haemoglobin (Hb) taken within 3 days of transfusion



Significant numbers of asymptomatic or only mildly symptomatic patients are being transfused when their Hb levels are above the recommended thresholds



90% (4221/4715) of audited patients had a post-transfusion haemoglobin (Hb) taken within 3 days of transfusion



21% of non-bleeding, multi-unit transfused patients had their haemoglobin level checked between units, and 27% had a documented clinical review



One in five (1034/5155) patients were transfused because of iron-deficiency anaemia. Only one-third of these (333/1034) presented with a bleeding phenotype which may have explained the use of transfusion. 68% of transfused iron-deficient patients were not bleeding.



Nearly 5% (231/5155) of transfusions were documented as given because of B12 or folate deficiency or both. Deficiency severe enough to require red cell support is unusual.



Only 50% (2581/5155) of transfusions had documentation that risks, benefits and alternatives had been explained (for this or a previous transfusion)

Standards and Results

Audit Standard

STANDARD 1: A pre-transfusion haemoglobin (Hb) is taken in 100% of cases within 3 days of transfusion (and preferably the same day)

STANDARD 2a: No patient (without acute coronary syndrome or cardio-respiratory disease) is transfused with a pre-transfusion Hb > 70g/L without adequate clinical reason

STANDARD 2b: No patient with acute coronary syndrome or cardiorespiratory disease is transfused with a pre-transfusion Hb > 80g/L without adequate clinical reason

STANDARD 3: A post-transfusion Hb is taken in 100% of cases within 3 days following transfusion (and preferably the same day) to assess the effectiveness of the red cell transfusion

STANDARD 4: Patients receiving multiple units are clinically reassessed and have their haemoglobin levels checked after each unit of red blood cells they receive, unless they are bleeding or are on a chronic transfusion programme.

STANDARD 5: People who may need or who have had a blood transfusion have the risks, benefits and alternatives to transfusion explained to them.

Audit Findings

4930/5129 (96%) patients had a pre-transfusion Hb taken within 0-3 days

816/2745 (29.7%) patients with a pre-transfusion Hb >70g/L did not have an adequate clinical reason for their transfusion

209/534 (39%) patients with ACS or cardiorespiratory disease and pre-transfusion Hb>80 had an adequate clinical reason for their transfusion

4221/4715 (90%) patients had a post-transfusion Hb taken within 0-3 days

National: 383/1891 (21%) had their Hb checked between units

National: 507/1891 (27%) were clinically assessed between units

2581/5155 (50%) patients had the risks, benefits and alternatives to transfusion explained to them either for the transfusion being audited or for a previous transfusion

Recommendations



Trusts should ensure that there is an appropriate reason for selecting red cell transfusion as the treatment of choice.



Trusts should assure themselves that the NICE and British Society of Haematology recommendations, amongst others, are supported within their medical settings, and that patients are not put at increased risk of unnecessary transfusion.



Trusts should ensure that iron supplementation is utilised as the primary intervention unless it is clinically urgent to transfuse.



Trusts should carefully examine their individual reports to look at these cases and consider deep-dive analysis of any that they contributed, to ensure that these transfusions were necessary.



Trusts should assure themselves that there is a robust system in place to help transfusion authorisers to have access to patient information sources, in keeping with NICE guidelines and quality standards.