“No blood, thank you”. Are You Ready for Bloodless Surgery?

Claire L J Atterbury
CNS Haematology and Transfusion Medicine
King’s Lynn, Norfolk
Where were we? What year?

‘The mass of literature on the subject of Blood Transfusions accumulated during the past 25 years is so great, and most of it so readily available, that one shows lack of temerity at least to attempt a discussion of this subject before this audience. The transfusion of blood may be a life-saving procedure under certain circumstances. It may be a necessary supportive measure under others, but it is too often undertaken when the doctor can think of nothing else to do after all other therapy has failed. My objective today is to discuss briefly the common surgical and medical conditions for which transfusion of blood is indicated in which we can obtain good physiological results and to point out those conditions in which it is little more than a gesture done as it were to satisfy the urge to do something.’
The New England Journal of Medicine

Volume 215  SEPTEMBER 3, 1996  Number 19

The Massachusetts Medical Society

SECTION OF MEDICINE

Lower Section Room, Municipal Auditorium, Springfield,
Tuesday, June 3, 1996, 2 p.m.

PRESIDENT:  DR. WILLIAM D. SMITH, Boston, Chairman.
DR. LAURENCE B. ELLIS, Boston, Secretary.
CHAIRMAN OF MEETING: WILL THE SPEAKERS PLEASE COME TO ORDER?

The first duty of the Section is the selection of the Chairman and the Secretary for the coming year, and, in accordance with the usual custom, the Chair will appoint as the Nominating Committee to suggest names Dr. Dwight O'Mara, Chairman.

THE USE AND ABUSE OF BLOOD TRANSFUSIONS

BY AMLE V. NOCK, M.D.

The mass of literature on the subject of blood transfusions accumulated during the past twenty-five years is so great and most of it is readily available that one seeks lack of brevity at least to attempt a discussion of the subject before this audience. The transfusion of blood may be a life-saving procedure under certain circumstances, it may be a necessary supportive measure under others, but it is too often undertaken when the doctor can think of nothing else to do after all other therapy has failed. My objective today is to discuss briefly the common surgical and medical conditions for which transfusion of blood is indicated, in which we can expect good physiological results, and to point out those conditions in which it is better to avoid its use.

1. Shock. Many theories of the cause of primary and secondary shock have been offered by able investigators, most of them recently reviewed briefly by Blanchard. Because of the complexity of the events no theory yet proposed can be considered the final answer as to the etiology of shock. We know that if treatment is to be successful it must accomplish two things, restoration of diminished blood volume and elevation of low blood pressure. Blood volume may be reduced by gross hemorrhage or it may be reduced by blood lost in the periphery of the body, as suggested by Freeman, or by extravasation of serum through damaged capillaries. If hemorrhage has occurred, transfusion of blood, together with such supportive measure as rest, is the immediate indication. No other therapy is so successful. In shock without much or any hemorrhage, 6 per cent gum serum in normal saline may be just as effective as blood, and has the advantage of greater availability. Repeated transfusions of blood or infusions of serum may be necessary but are usually not, if no delay has occurred in the first instance. Anemia may be used as a supportive measure until transfusion can be arranged. Prognosis of the shock state results in the absence of capillary damage, peripheral hemorrhages, and rapid change in general to an irreversible state.

One of the common accompaniments of shock is dehydration, a state associated with loss of water, base, chloride and increase in nonprotein nitrogen. When such a state exists, transfusion alone is not adequate therapy, but normal salt solution, often in large quantities, should be administered intravenously, or it may be given in eight ounce quantities by rectum every half hour. When facilities permit, serum chloride

With thanks to Aryer Shander

claire.atterbury@qeh.kln.nhs.uk
And where are we?

‘The anaemia as I mentioned in a previous letter is chronic anaemia which can not be corrected without blood transfusion and I leave it to you to organise that pre-operatively. I think once you have done that you will be safe to go ahead with surgery’.

GP to Ortho Consultant January 2013
It’s all in the preparation

- Pre-assessment not pre-admission clerking in a timely fashion
- Take a bleeding history
- Careful examination and review of co-morbidities
- Suitable blood tests – does one size fit all?
- Review of all the evidence – by pre-assessment team (what would keep them in?)
- Correct what can be corrected – have a clear plan in the notes
- Consider a bleeding plan – what will you do if they bleed?
- Not ideal with a chance of improvement? Bounce back to the GP for onward referral (but tell them what needs doing and by whom)
Intraoperative Management

- Multimodality approach
- Surgical techniques to minimise blood loss
  - Meticulous Haemostasis
  - Minimise duration of surgery?
  - Patient positioning?
  - Staged surgery?
- Haemostatic instruments
- Minimally invasive approaches
- Use of drugs such as Tranexamic Acid, Fibrin Glue etc etc
- Maintain normothermia
- Intraoperative Cell Salvage
Post-operative Management

- Close monitoring for any blood loss
- Early reporting and intervention
- Return to Theatre to stop bleeding?
- Treat shock energetically
- Consider intravenous iron of needed
- Oxygen and fluids – resuscitate
It’s a team effort

- Two or more draught animals harnessed together
- Set of players forming one side in a game
- Set of persons working together
Remember - No blood needs planning (and nerve!)

- Plan, plan, plan
- Use team work (include the patient, their family and the GP)
- Don’t go until the patient is optimised (you can suspend them from the list)
- Optimise if possible and necessary before discharge