REVIEW OF THE “MAJOR CONCERN” IN DONOR VIGILANCE:

DONOR VASOVAGAL REACTIONS

HOW CAN WE REDUCE THEM?

Johanna Castrén
24.10.2018
Content

• Introduction; data on donor adverse reaction rates
• Short review of evidence based methods effective in reducing VVR:s
• Some examples of activities we have done in our national blood establishment in order to reduce VVR rates
Introduction 1/2

• VVR:s - majority of reported donor adverse reactions

• Rate of VVR:s for WB donors
  • VVR without LOC 1.0 - 7.0 %
  • VVR with LOC 0.1 – 0.5 %
Introduction 2/2

• Complex issue;
  • Can occur before, during or after donation
  • Long list of risk factors – not possible to mitigate 100%

• VVR:s
  • 😞 unpleasant experience, 😞 harm, 😞 risk for trauma, 😞 reduced donor return rates and 😞 extra work

• Three main categories of methods effective in preventing/reducing VVR:s
  • Donor selection / donation proces related strategies
  • Physiological methods
  • Psychological methods
Donor selection / donation process related strategies

• VVR-rates ↓

• Risk groups
  • Young female donors
  • Donors with low weight or BMI / estimated blood volume
  • Donors with history VVR:s or other adverse events in previous donations
  • First time donors (😊)

• What should we take to account in donation process?
  • Collection volume (especially in aphereris donations)

Tomasulo et al: Interventions to reduce the VVR rate in young WB donors. Transfusion 2011
Fisher et al: Interventions to reduce vvr:s in blood donors; a systematic review and meta-analysis. Trans Med 2015
Narby et al: Case-control study of immediate and delayed vasovagal reactions in blood donors. VoxSanquinis 2016
Physiological methods

Medical, physiological based clinical interventions; (for BE:s a "familiar" framework)

Prevent hypotension- > VVR:s rates ↓

- **Water** or isotonic drink (475-500 ml)
- Applied muscle tension
- Water + Applied muscle tension
- (Caffeine, salt intake)?


Fisher et al: Interventions to reduce vvr:s in blood donors; a systematic review and meta-analysis. Trans Med 2015
Psychological methods

Theories and approaches ≠ ”traditional clinical tools”
Less number of studies than of physiological methods

Evidence mainly for presyncopal reactions and among young, first time donors

• Assessment of donor fear (simply by asking the donor)
• Audio-visual distraction (blunting (watching and listening a video on a personal device + headset))
• Social support (novice donors, effect on pre-fainting symptoms)
• Applied muscle tension (not only the physiological effect, but also the effect of ”doing something”)

Ref: Bonk et al Distraction reduces self-reported physiological reactions to blood donation in novice donors with a blunting coping style, Psychosom Med 2001 Hanson and France: Social support attenuates presyncopal reactions to blood donation, Transfusion 2009
France et al: Assessment of donor fear enhances prediction of presyncopal symptoms among volunteer blood donors, Transfusion 2012
France et al: How afraid are you of having blood drawn from your arm? A simple fear question predicts vasovagal reactions without causing them among high school donors, Transfusion 2013
Fisher et al: Interventions to reduce vvr:s in blood donors; a systematic review and meta-analysis. Trans Med 2015
Finnish Red Cross Blood Service in a nutshell

Finland:
5,5 M total population

- 200,000 WB donations/year
- 2,600 PLT donations/year
- 10 donor centers
- 7 mobile teams
  - 46% of collections in mobile
- 431 FTEs

Source: Dr Satu Pastilas presentation 23.5.2018, EBA BMG WS, Valencia, Spain
What have we done 2010-2017 in order to minimize the number of VVR:s?

• Handouts + information from the nurse taking care of donor:
  • drink 1-2 glasses of water/juice or coffee before the donation
  • muscle pumping is a good thing for you 😊 (AMT)
• Targeted training efforts

www.bloodservice.fi
... do you think we have done our job well?
2015: Special training; Reduction of VVR:s as main medical subject in the annual oblicatory training day for nurses
2016: Nurses told us... and it made sense...
Xmas-effect

- During Xmas weeks we always reach the maximum number of collections
- Lot of work and feelings of hurry
- Long waiting times for donors

-> this have to have a negative impact on donor safety -> increased VVR rates?

-> but based on adverse event data only in 2 out of 7 years VVR rate in Xmas was higher than in Jan?
2018: Focus group interview by a sociologist

- Two focus groups
  - A) Nurses with regular orientation training + targeted “How to reduce VVR:s” training session in 2015
  - B) Nurses with regular orientation training
- Study questions
  1) Any difference between group 1 and 2 in theoretical knowledge concerning effective methods in reducing VVR:s?
  2) Nurses attitudes / practical understanding concerning risk factors of VVR:s – and methods to reduce them?

Results
1. No differences: the theoretical level of knowledge concerning physiological methods was high in both groups, but not concerning the psychological
2.1. The nurses were familiar with known risk groups
2.2. Experience; talking about fearness is effective
2.3. The most important factor is ”the evaluation” / ”scanning of donors behaviour and body language”, encountering the donor
2.4. Not only the hurry / lack of time of the staff but also of the donor is a risk factor

Ref: PhD Stud. Veera Raivolias survey in Helsinki Sanomatalo Blood Center 2018, not published
VVR:s - how can we reduce them?

Individual needs of the donor

Psychological approaches

Donor selection + Physiological approaches
VVR:s - how can we reduce them?

Individual needs of the donor

Psychological approaches

Physiological approaches

Psychological and physiological methods

Facing the donor, listening and hearing his/her needs

www.bloodservice.fi
thank you

johanna.castren@bloodservice.fi