

“The balloon remnant is delivered after another balloon has passed and has been inflated to temporarily seal the perforation. ” This message in the discussion is a bit unclear - if the wire has perforated and the balloon remnant is delivered too distal it would seem like it could worsen the rupture. Also, if you have passed another balloon that far down that too would have worsened the rupture. While very unlikely, the wording makes it seem possible. I would suggest explaining this another way. Otherwise, interesting idea to have a balloon remnant used that is actually guided to the distal vessel over the wire which you presumably then withdraw”.

The paragraph has been re-written and a schematic figure added to explain this and remove any ambiguity or mis-interpretation.

The delivery of the balloon remnant can be perceived as uncontrolled and if there is resistance and inability to deliver it, then it cannot be retrieved. Furthermore, it could also be perceived that this remnant can be advanced too distal and may exit through the perforation and cause more bleeding. This in fact is not the case. (Figure 2) The balloon remnant would be delivered after another normal balloon has passed and has been used and inflated to temporarily block the artery and stop the extravasation as per normal practice. This would indicate that the remnant balloon will pass too. In addition, the anatomy and the site of perforation would be clear to any experienced operator which in turn ensures that the balloon remnant is stopped well before the perforation site itself and will have no chance of exiting through the perforation and making matters worse.

