Letter to the Editor re: Superselective arterial embolisation with a liquid polyvinyl alcohol copolymer in patients with acute gastrointestinal haemorrhage

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Sir,

We read with great interest the article by Lenhart and colleagues recently published in European Radiology and reporting effectiveness of selective arterial embolisation using Onyx[®] in patients with acute gastrointestinal bleeding [1]. We have several comments. First of all, we would like to congratulate the authors for their study which represents the first series to date reporting results on arterial embolotherapy with Onyx[®] as an embolic agent in the gastrointestinal tract. Until now, the only available data on the use of this embolic material for peripheral applications came from case reports. Indeed, Onyx[®] is a new liquid embolic agent composed of ethylene-vinyl alcohol copolymer dissolved in dimethyl sulphoxide (DMSO), with emerging applications in neurovascular procedures, predominantly embolisation of cerebral aneurysms and arteriovenous malformations [2]. The main advantages of Onyx[®] are its nonadhesive properties, high radiopacity, and long solidification periods, which, compared with acrylic glues, make the embolisation procedure more controllable and predictable. However, the authors did not bring to attention several important disadvantageous characteristics of the use of Onyx[®]. First, DMSO can cause severe vasospasm if injected rapidly. This is most likely to occur early in the procedure and can be avoided by using no more than 0.2 ml of DMSO in the first minute of injection. Even if the authors reported a total injection time

of DMSO and Onyx[®] of 10 min on average for their procedure, in our experience, the duration of injection is often much longer and varies depending on the amount of Onyx[®] used. Secondly, DMSO is volatile and is excreted via respiration and sweat. This has a typical smell not unlike that of diabetic ketoacidosis and may last a few days. The patient and ward staff should be warned to expect this. Lastly, the use of Onyx[®] has cost implications as it is much more expensive than alternative embolic materials and it requires specific DMSO-compatible microcatheters. The prohibitive costs of using Onyx[®] have led to its restricted use in neuroradiology in most of the institutions around the world. In conclusion, we think this embolic agent is very promising but the important cost aspect needs to be borne in mind when there are other cheaper alternatives that would be as effective and faster when used on an emergency basis.

References

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