

## Splenic Artery Embolization- What Next?

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### Abstract

It is a norm to manage the hemodynamically stable blunt splenic injury patient without surgical intervention. In the case of contrast blush on initial imaging, the management is carried out via the angioembolisation pathway.

However, there is no consensus amongst most trauma surgeons about the timing of surveillance imaging. The occurrence of latent pseudoaneurysm which might predispose to delayed rupture of the spleen can lead to failure of the non-operative management (NOM) pathway.

We hereby present an interesting case, which highlights the importance of adherence to institutional protocol for successful management of the NOM.

**Keywords:** Splenic Artery; Embolization; Non-Operative Management (NOM)

### Introduction

It is a norm to manage the hemodynamically stable blunt splenic injury patient without surgical intervention. In the case of contrast blush on initial imaging, the management is carried out via the angio-embolization pathway. However, there is no consensus amongst most trauma surgeons about the timing of surveillance imaging. The occurrence of latent pseudoaneurysm which might predispose to delayed rupture of the spleen can lead to failure of the non-operative management (NOM) pathway.

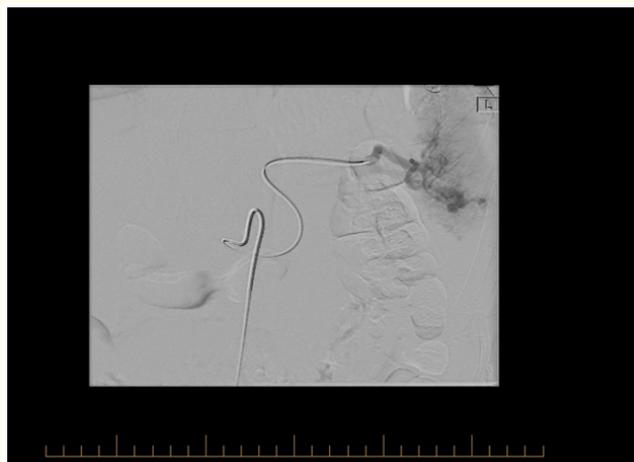
### Case Report

A 32-year-old man was brought into our emergency department with history of road traffic collision. He was riding his motorbike with complete protective gear when he collided with the side of a car at 60 kilometres/hour. On clinical examination he had robust hemodynamics and was only complaining of pain in the left flank.

In view of the mechanism and increasing requirement of pain relief medications he proceeded to a multiphase Computed Tomography (CT). The imaging was suggestive of Grade III American Association Severity splenic injury along with active extravasation of contrast and sentinel clot inferiorly [1].

We organised a formal catheter angiogram of the splenic artery (Figure 1). The angiogram confirmed lower pole pseudoaneurysm, which was selectively embolised with coils to achieve a good result.

On day 3 of admission as per our institution spleen salvage protocol we organised a follow up multiphase computed tomography (Figure 2). This CT demonstrated a new focus of upper pole pseudoaneurysm in the spleen and stable volume of hemo-peritoneum.



**Figure 1:** Initial formal angiography demonstrating lower pole pseudoaneurysm.



**Figure 2:** Post angiography computed tomography with upper pole pseudoaneurysm.

Since patient was hemodynamically stable, the injury had occurred more than 72 hours ago and there was availability of expertise to perform angiography/embolization, we proceeded to repeat angiography. Pseudoaneurysm of the upper third branch of the splenic artery was identified and coiled successfully (Figure 3). Repeat Computed Tomography on Day 2 following re- embolization suggested no new pseudoaneurysm and dissolution of the amount of hemoperitoneum and patient was discharged following the same. As per our splenic salvage protocol, on day fourteen following the embolization the patient underwent a finger prick blood test to evaluate the red cell morphology. There was no evidence of asplenia or hypo-splenism.



**Figure 3:** Repeat angiography with selective coils in upper and lower pole branches of splenic artery.

## Discussion

There has been a plethora of literature regarding nonoperative management of blunt splenic injuries published since the original EAST practice management guideline was published [2]. It is also evident that centres which use frequent angioembolization of the splenic artery have higher rates of splenic salvage [3].

However, literature is still not clear in terms of timing towards surveillance imaging following embolization. At our institution we have implemented clinical practice guidelines to image these patients following 48 hours of embolization to rule out formation of new pseudoaneurysm. Delayed splenic rupture is rare but may still occur despite the grade of injury and contribute to failure of the NOM pathway [4].

## Conclusion

This is one of our cases which supports the rationale of routine inpatient surveillance imaging post embolization to prevent delayed rupture of spleen.

## Disclosure

The authors declare no funding or conflicts of interest.

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