Aggressive Surgical Management of Spontaneous Intramuscular Haematomas in Patients with Cirrhosis is an Important Therapeutic Option

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One known medical complication in patients with cirrhosis of the liver is sudden onset gastrointestinal haemorrhage which is usually variceal in nature and can be life threatening [1]. On occasion spontaneous haemorrhage from varices in other locations may also occur [2]. In addition, episodes of either intraabdominal or intrapulmonary haemorrhage are also associated with poor clinical outcomes in cirrhotic patients [3,4].

In comparison relatively, few cases of spontaneous intramuscular haemorrhage in patients with cirrhosis have been reported up to now. This particular clinical entity has been predominantly the subject of sporadic case reports or case series. Apart from one small case series [5], the majority of the cases were summarised in a published review in 2015 [6]. Hence the most recent case report from Mongelli et al published recently in this journal [7], now becomes the 25th case.

What differs about the Mongelli et al case is that it describes aggressive surgical management of a middle-aged male with cirrhosis who developed sudden onset spontaneous haemorrhage into the right chest wall [7]. The result being that a favourable short-term clinical outcome was able to be achieved. This is only the third reported case overall where aggressive surgical management has been associated with the patient surviving. The one other reported case of spontaneous chest wall haemorrhage in a cirrhotic where trans arterial embolization was deployed, resulted in the patient succumbing from multiple organ failure [8].

When a comparison is undertaken of surgical management versus the other management options of the 25 cases reported to date it can be seen that the patient outcomes vary markedly (Table 1). It seems that aggressive surgical management may be associated with the best patient survival compared to either
conservative management and/or trans arterial embolization. Of note conservative management involves the transfusion of blood components as well as other medical measures in order to address the abnormalities of clotting factors. However, it is most likely that there were other mitigating factors as to which type of management approach was utilised on each occasion. Some of these factors, include the patients overall medical condition, the stage of the liver cirrhosis, along with the availability of the various treatment modalities.

| Table 1: Patient outcomes according to therapeutic modality. |
|--------------------------------------------------------------|
| **Modality**       | **Alive** | **Dead** | **Total** |
| Conservative      | 2(20%)    | 8(80%)   | 10        |
| TAE               | 1(11%)    | 8(89%)   | 9         |
| Surgery           | 3(75%)    | 1(25%)   | 4         |
| Liver Transplantation | 1(100%) | -        | 1         |
| Unknown           | -         | 1        | 1         |
| **TOTAL**         | 7(28%)    | 18(72%)  | 25(100%)  |

So why are the clinical outcomes generally so poor? Although not all of the case reports include data on the magnitude of the severity of the associated liver disease where the data is available it seems that a number of the patients 9/25 (36%) had Childs C cirrhosis and/or a MELD (Model for End-stage Liver Disease) score of 20 or higher [5,6]. Hence it is possible that the actual stage of the underlying liver disease is a risk factor for an adverse outcome along with perturbation of the coagulation indices [8]. As most of the patients had a diagnosis of alcoholic cirrhosis in 21/25 (84%) of cases, this alone may also be a risk factor, particularly if the alcohol ingestion was occurring right up to or close to the time of onset of the spontaneous haemorrhage [6]. Also, when it comes to deploying trans arterial embolization (TAE) for spontaneous intramuscular haemorrhage in other patient cohorts, there is some evidence that the greater the magnitude of the haemorrhage, the less likely that TAE will be successful [9].

It is also possible that spontaneous intramuscular haemorrhage in the setting of cirrhosis is a relatively under reported entity, with only problematic and/or difficult cases being reported. Hence the true outcomes for the multidisciplinary management of these patients in the modern era could potentially be more favourable. One of the clues that this is an under reported entity is that the majority of the case reports are from outside of Europe and North America. With the patients to date being predominantly male 21/25 (86 %), it is not known if this accurately reflects the underlying gender ratio for the overall incidence of cirrhosis alone and/or secondary to alcohol in each of the regions from where these various reports emanate from. The one previously reported case where liver transplantation was successfully undertaken provides an indication that on occasion this may also be a management option if the patient meets the acceptance criteria for listing, plus this modality is readily available [10].

In conclusion it seems that aggressive management of episodes of spontaneous intramuscular haemorrhage in patients with cirrhosis of the liver is required in order to achieve optimal patient outcomes. Consideration needs to be given to undertaking surgery in order to adequately deal with large haematomas, in addition to managing the underlying bleeding diathesis. Management of the co-existing liver disease may require that liver transplantation also be considered if the patient is deemed to be a suitable candidate. As this remains an under reported entity, there seems that there is more that can be gained by other clinical investigators/units also publishing on their experience. Only then will the optimal management algorithms for this particular clinical entity become clearer.
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