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Till death do us part? The inconspicuous impact of subarachnoid haemorrhage on conjugal status

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ABSTRACT

A patient's partner plays a significant role in providing care and support after an aneurysmal subarachnoid haemorrhage. After such events, it is observed that conjugal status tends to change, improving in some cases and worsening in others. Despite this, little research exists on its progression after subarachnoid haemorrhage. In this letter, we provide a brief summary of the studied sequelae of subarachnoid haemorrhages, such as fatigue, cognitive decline, and personality changes, and discuss the potential interplays between those and conjugal status. We also report the primary author's series of aneurysmal subarachnoid haemorrhage cases in Iraq as an example of the observation of conjugal status changes after subarachnoid haemorrhage. The hope is to shed light and encourage further research on this topic, considering its significant impact on patient well-being and outcomes.

Keywords
subarachnoid haemorrhage, spouse, cognate status, neurosurgery

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Multiple published studies briefly considered the impact of aneurysmal subarachnoid hemorrhage (aSAH) on conjugal status.11,13,20 Specifically, the data tends to show two main patterns of change, the more common being a decline in the relationship, while the other, less common change, is an improvement in their quality. Similarly, we observed the changes in patients recovering from surgery for aSAH in our practice. However, we also noticed that there is a lack of evidence regarding the factors that contribute to this observation, and therefore, further studies to unveil the interplay are warranted.

Neuropsychological sequelae of aSAH

Beyond the domain of relationships, aSAH is known to be followed by a multitude of changes affecting a patient's personality, behavior, and mood. One such change is increased fatigue, which is associated with sleep-wake disorders, anxiety, depression, and cognitive impairment,

all of which have been reported to decrease Quality of Life (QoL) independently of and in association with fatigue.2,4,14,15,19,20,21 Further, patients report dissatisfaction after aSAH related to decreased sexual desire and activity, some citing a fear of a recurrent aSAH if intercourse precipitated the initial aneurysmal rupture.4,11 In line with such concerns, aSAH patients and their significant others are susceptible to symptoms of post-traumatic stress disorder (PTSD) following their experiences.5,9 Finally, another important change is that of personality.1,6,16 While some patients are described as becoming more irritable, emotionally labile, or aggressively straightforward, others describe having a new outlook on life and a gratitude for surviving.7,9

Relating sequelae to conjugal relations after aSAH and surgery

While the amount of research culminating in the findings above is abundant, research specifically delineating conjugal relationships after aSAH is lacking, despite the crucial role such relationships play in the support and continued care of patients. Nevertheless, all changes considered, it is not difficult to see the intuitive interplay between them and the developments observed in the close social circles of patients. For instance, relationships could easily become affected in relation to alterations in personality, decreased cognitive function, fatigue, or any other aSAH sequelae. Alternatively, relationships can change as a result of increased financial burden on a partner to accommodate for the decreased productivity or the discontinued employment of the patient, which itself is justified by declining cognitive function or fatigue.20 Indeed, reports exist of partners becoming estranged or developing a patient-caretaker dynamic after aSAH.20 However, more research is required before any such connections can be made. Moreover, such research should aim to identify predictive factors of relationship progression after aSAH, considering both clinical outcome and relationship status immediately after aSAH as candidates.

In addition, further work is needed to illuminate the underlying mechanisms contributing to sequelae and changes in conjugal relationships. Here, the literature offers a plethora of candidates but lacks the provision of irrefutable evidence. One example is the occurrence of vasospasms as an independent predictor of fatigue, but how this affects familial responsibilities, intimate interactions, and relationships, is yet to be uncovered.21 Vasospasms also disrupt neurotransmission and plasticity in the hippocampus, affecting memory. Yet how this informs the developing patient-caretaker relationship has not been outlined.17 Subsequent to vasospasms, ischemia and metabolic changes may contribute to cognitive decline, as can the clipping procedure, the volume of blood in the subarachnoid space, and global cerebral edema.3,7,10,12,18 Moreover, other theories that have been proposed to explain aSAH sequelae include pituitary dysfunction, neurotransmitter imbalance, systematic inflammation, and disruption of brain circuits.8,21 A direct examination of how these factors affect sequelae and, subsequently, relationships is warranted.

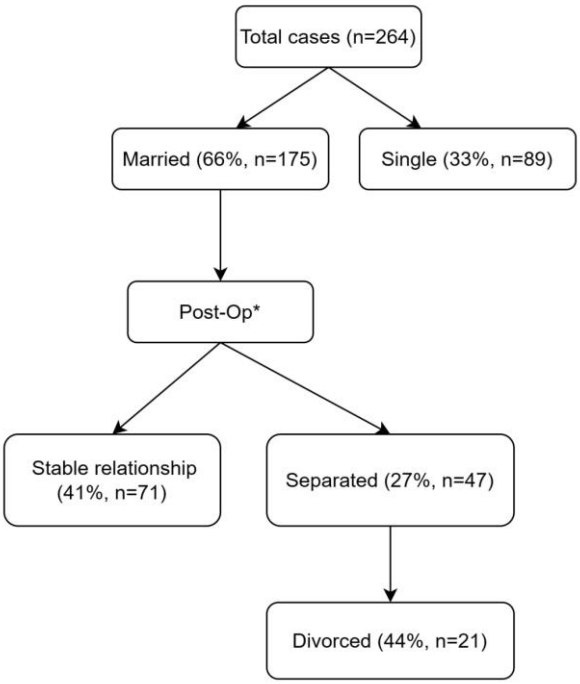

Figure 1. Flow diagram of the primary author case series.

Based on the primary author's series in Iraq of 264 cases with aSAH treated via microsurgical clipping, 33% of the cases were single (n=89), with the remaining 66% being married (n=175). Of the latter group, 27% (n=47) reported a significant change in their marital relationship in the form of separation at 25 months mean follow-up (range=9-42 months). 44% of the 47 patients (n=21) officially filed for divorce, with a majority doing so because of domestic violence. On the other hand, 41% of the

married patients (n=71) experienced a significantly more stable relationship than the pre-incident status, reported by both the patients and their partners (Figure 1).

To be considered here are the social norms of personal relationships in Iraq, which come solely in the form of marriage. This renders the follow-up of this outcome parameter a relatively straightforward process and emphasizes the impact on the patient's life. One nuance to consider is the underreporting of divorce due to stigma or legal limitations in cultures with certain traditions, such as Judo-Christian, Islamic, or Hindu cultures. Additionally, this observation is expected to be subtle and more difficult to assess in parts of the world with more variable forms of conjugal status.

Based on this, more relationship-focused studies are needed, keeping in mind variance in social norms, to examine this relatively underrated factor. The creation of a parameter to standardize the quantification of conjugal relationships across differing societies is also justified. Further, it is important to recall the contrasting group of the patients who experience improved relationships, wherein the solution to this issue might be identified. The hope for this research would be to shed light on these patterns and to identify efficacious interventions to improve patient QoL and satisfaction, especially when it comes to a pillar of post-intervention care such as the patient's support system.

Non-standard Abbreviations and Acronyms:
Aneurysmal subarachnoid hemorrhage (aSAH);
Post-traumatic stress disorder (PTSD);
Quality of life (QoL).

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