Review

AMERICAN JOURNAL OF ONCOLOGY AND SURGICAL CASE REPORTS

Chronic Subdural Hematoma in Patients Over 90 Years of Age: Surgical Outcomes and Clinical Considerations

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Received Date: 17 Mar 2026
Accepted Date: 04 Apr 2026
Published Date:10 Apr 2026

Citation: Mohammad Rayan Khan, Chronic Subdural Hematoma in Patients Over 90 Years of Age: Surgical Outcomes and Clinical Considerations. AJOSCR. 2026; 19: 1-2

1. Abstract

1.1. Purpose: This retrospective study evaluated outcomes in patients over 90 years of age who underwent surgery for chronic subdural haematoma (cSDH).

1.2. Methods: Clinical and surgical records of patients treated between 2008 and 2012 were reviewed retrospectively.

1.3. Results: Sixteen patients aged 90 years or older underwent surgery for cSDH. Ten were men and six were women. Two patients required repeat surgery for recurrence. Two patients died in the postoperative period, five were discharged home, seven were transferred to rehabilitation, and two returned to a nursing home.

1.4. Conclusion: Surgical treatment in very elderly patients can improve neurological status despite advanced age and associated medical conditions.

2. Keywords

Chronic Subdural Haematoma; Elderly Patients; Neurosurgery; Nonagenarians; Surgical Outcome

3. Introduction

Chronic subdural haematoma (cSDH) is a common neurosurgical condition that predominantly affects elderly individuals. With increasing life expectancy, the number of patients over 90 years of age presenting with cSDH is expected to rise significantly. Although many studies have assessed outcomes in elderly populations, most define elderly patients as those aged 65 years or older. Limited data are available regarding surgical treatment in nonagenarians. This study aimed to evaluate the outcomes of surgical evacuation of cSDH in patients aged over 90 years and to identify whether age alone should be considered a contraindication to surgery.

4. Patients and Methods

Institutional approval was obtained for this retrospective study. Medical records of all patients aged 90 years or older who underwent surgery for cSDH between January 2008 and December 2012 were reviewed. Data collected included age, sex, residence status, medical comorbidities, anticoagulant or antiplatelet therapy, history of trauma, and presenting symptoms.

Neurological status was assessed using the Markwalder Grading System (MGS), and functional outcome was measured using the Glasgow Outcome Scale (GOS). Survival was calculated from the date of surgery until death or the end of follow-up in December 2013.

All patients underwent burr-hole craniotomy under local anesthesia with subdural drainage for one or two days. Postoperative CT scans were performed the day after surgery and during follow-up to assess recurrence.

5. Results

Sixteen patients aged 90 years or older underwent surgery during the study period. The mean age was 92.1 years (range 90–101 years). Ten patients were men and six were women.

Nine patients were receiving anticoagulant or antiplatelet therapy at admission. Five patients had a prior history of head injury. Common presenting symptoms included hemiparesis, disorientation, and speech disturbances.

At admission, thirteen patients had an MGS score of 2 and three patients had a score of 3. At discharge, eleven patients demonstrated neurological improvement. Functional outcome assessment showed good recovery in four patients, while ten had moderate disability.

Five patients were discharged home, seven were transferred to rehabilitation centers, two returned to nursing homes, and two patients died during the postoperative period. Four patients required repeat surgery due to recurrence. Median survival after surgery was 36.9 months, and the longest survivor remained alive at 69 months follow-up.

6. Discussion

Chronic subdural haematoma is frequently encountered in elderly patients, yet evidence regarding patients over 90 years remains limited. This study demonstrates that surgical evacuation can provide meaningful neurological improvement even in very advanced age. Most patients showed postoperative functional recovery, and survival outcomes were acceptable considering their age group.

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Although comorbidities were common, they did not appear to preclude favorable outcomes in selected patients. The study also suggests that age alone should not be considered a contraindication to surgery. Careful patient selection remains essential, as those undergoing surgery are generally more medically stable individuals. The postoperative mortality rate in this series was comparable to previously reported studies in elderly populations. Overall, surgery remains a reasonable and effective treatment option for symptomatic cSDH in nonagenarians.

7. Conclusion

Surgical evacuation of chronic subdural haematoma is a safe and effective treatment option in patients aged over 90 years. Despite advanced age and associated medical conditions, many patients experience neurological improvement and meaningful survival after surgery. Treatment decisions should be based on overall clinical status rather than age alone.

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