

Research Article

Seizure in later life: an ode to the elderly

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ABSTRACT

Background: Seizure disorder and epilepsy are one of the common presenting symptoms to an emergency department for geriatric population. Cerebrovascular accident, metabolic derangement, trauma, neurodegenerative diseases, tumor, infections and psychiatric illnesses add up to the frequent etiological spectrum of seizure in elderly. Objective of current study was to describe clinical and etiological spectrum of seizures in later life.

Methods: This retrospective study was conducted from medical records of 227 cases of elderly subjects presenting with seizure to emergency department, during a period of 3 years (2010-2013).

Results: Most common age group involved was 65-75 years. Mean age of subjects included in the study was 68.13 ± 23.38 years. The most common etiology was cerebrovascular disorders 132 (58.14%), followed by CNS tumor in 16 (07.04%), hypoglycemia in 14 (06.16%), infections 14 (06.16%), substance abuse 12 (05.28%) and trauma 10 (04.40%). The most common presentation was with focal seizures, with 119 (52.42%) subjects whereas 82 (36.12%) presented with generalized tonic clonic seizure, 20 (08.81%) with generalized tonic seizure and 05 (02.20%) with absence seizures.

Conclusion: The present study aims at pointing out the different clinical features and etiologies of geriatric seizures, thereby lets the reader have a head start with the management of an elderly patient presenting with seizure.

Keywords: Seizure, Elderly, Geriatrics, Government medical college, Patiala

INTRODUCTION

The advances in the current medical science and technology have strived forward in increasing longevity of the population. Major economies in the world-developing and developed alike are facing an ever increasing graying population with the inherent risk of morbidity and mortality. The combined endpoint of a mechanized and sedentary lifestyle added up with an increase in life span invites our acuity towards a fragile unbalanced segment of the society to whom we are obliged for what we are.

Epilepsy is the third most common neurological disorder in old age after dementia and stroke. The elderly are now the group with the highest incidence of epilepsy in the general population.¹ Incidence rates of over 100 per

100000 for epilepsy in people over 60 years old have been reported in contemporary literature.²

The incidence of acute symptomatic or provoked seizures also rises significantly in older persons³ and the prevalence of epilepsy increases with advancing age, although to a lesser degree.

Different studies show considerable variability in the etiology and risk factors for epilepsy.⁴⁻⁶ The most frequently reported risk factor is cerebrovascular disease.⁷ Tumors, metabolic and toxic causes and cerebral hypoxia secondary to the many causes of syncope in old age account for around 10% of all seizures.^{5,7} Other causes of seizures include head injury, infection, subdural haematoma and neurodegenerative disorders.

METHODS

This retrospective study was undertaken at Rajindra hospital/government medical college, Patiala from the medical records between 01st of June 2010 to 30th of May 2013.

227 cases of seizure disorder presenting for the first time was included in the study group after excluding 13 cases with repeated admissions.

Demographic data, etiology and other relevant details were entered in a preset proforma. The obtained data was analyzed using SPSSv20.

RESULTS

The age group most affected was 65-75 years of age with 139 (61.23%) subjects. The mean age of the study population was 68.13 ± 23.38 years. There was a significant female preponderance with 133 (58.59%) being females (Table 1). 44 (19.38%) subjects had presented in status epilepticus.

Table 1: Age distribution among seizures in elderly.

Age group	Male	Female
65-75 years	51 (22.46%)	68 (29.95%)
75-85 years	27 (11.89%)	37 (16.29%)
>85 years	16 (07.04%)	28 (12.33%)
Total	94 (41.41%)	133 (58.59%)

The most common etiology was cerebrovascular disorders 132 (58.14%), followed by CNS tumor in 16 (07.04%), hypoglycemia in 14 (06.16%), infections 14 (06.16%), substance abuse 12 (05.28%), trauma 10 (04.40%) and other uncommon causes in the rest (Table 2). Among cerebrovascular disorders intracerebral hemorrhage accounted for 58 (43.93%) subjects and the rest 74 (56.06%) by infarctions.

Table 2: Etiology of seizure in elderly.

Etiology	Frequency	Percentage
Cerebrovascular disorder	132	58.14%
CNS tumor	16	07.04%
Hypoglycemia	14	06.16%
Infections	14	06.16%
Substance abuse	12	05.28%
Trauma	10	04.40%
Non vascular dementia	08	03.52%
Undetermined	21	09.25%

The most common presentation was focal seizure, with 119 (52.42%) subjects, among which 88 (38.76%) had cognitive impairment and 31 (13.65%) without cognitive impairment. 82 (36.12%) presented with generalized tonic clonic seizure, 20 (08.81%) with generalized tonic seizure and 05 (02.20%) with absence seizures (Table 3).

Table 3: Classification of seizure.

Classification of seizure	Frequency	Percentage
Generalized tonic clonic seizure	82	36.12%
Generalized tonic seizure	20	08.81%
Focal seizure with cognitive impairment	88	38.76%
Focal seizure without cognitive impairment	31	13.65%
Absence seizure	06	02.64%

DISCUSSION

The incidence of epilepsy follows a bi-modal distribution. The first peak is in the first few years of life while a second peak is in those over 60 years old. Indeed, the elderly are now the group with the highest incidence of epilepsy in the general population.¹ Most common age group presenting with seizure in later life was 60-70 years with 139 (61.23%) subjects. Age of 65 years or more has been identified as one of the risk factors for developing epilepsy after a head injury.⁸

Cerebrovascular disorders were the most common cause of seizures in later life with 132 (58.14%) subjects. Sander JW⁷ et al. reported 30 to 58% frequency of cerebrovascular disorders for causation of seizure.

CNS tumors accounted for 07.04% cases in present study. As reported by Sander JW & Luhdorf K et al. tumors are a less frequent cause of seizures contributing 10 to 15% cases, indicating a concurrence with the present study.^{5,7}

Trauma to head resulted in 10 (04.40%) cases of seizures in later life. Brodie MJ et al.,⁸ Hauser WA et al. and Stefan H et al. in their studies reported 5 to 20% prevalence of head injury as a cause of seizure.

Focal seizures occur more frequently than generalised seizures (of any type) in old age.⁵ Focal seizures accounted for 119 (52.42%) subjects, among which 88 (38.76%) had cognitive impairment and 31 (13.65%) without cognitive impairment.

CONCLUSION

Incidence and prevalence of seizure increases beyond 60 years of age. With the current scales of technological improvement and better awareness the mean age of population is on rise. Assessment, diagnosis and management of the etiology of seizure are of utmost importance. The present article aims to point out the etiological spectrum of seizures in later life. Its their effort that we are here, let's make them feel better.

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