

Pattern of Medical Admissions Among the Elderly – A Prospective Review in University Hospital, Kuala Lumpur

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Summary

A prospective study of the characteristics of the elderly admitted to the University Hospital was carried out. Elderly patients contributed to 19.1% of all medical admissions during the survey period. Twenty-four per cent of the patients presented with non-specific complaints. Cardiovascular (35.1%) and neurological (22.9%) disorders were the commonest reasons for admission, with stroke being the most common specific primary disease entity. Multiple pathology (three or more medical problems) were found in 53 (71.6%) patients on admission. Rehabilitation was required in 33.8% of the patients and on discharge, 37.8% had a Barthel ADL Index of less than 15/20 indicating a need for further rehabilitative input. Half of the patients discharged were on multiple drug therapy. A multidisciplinary approach to optimize the management of the elderly patient is outlined. There is a need for further research on the appropriate management of the elderly patient in the Malaysian health care system.

Key Words: Elderly, Rehabilitation, Health care, Malaysian

Introduction

The elderly have been defined as persons aged 65 years and above¹. Since the early 1970s, the population of Malaysia has been aging. The age groups 60 years and older, and 65 years and older are expected to grow from 5.9% and 3.9% respectively in 1990 to 10.9% and 7% by the year 2020². Therefore there is a need for more information and research regarding the characteristics of geriatric admissions to help in planning health services for the growing proportion of geriatric in-patients. A survey was undertaken to help understand the pattern of various diseases of the Malaysian geriatric patients.

Method

A prospective study of all elderly patients aged 65 years and above admitted to the medical wards of the University Hospital was carried out over a period of fourteen days (16-12-93 till 30-12-93 inclusive). All elderly patients admitted to the six medical and one cardiac/coronary care wards were interviewed within 24 hours of admission and prior to discharge by the authors using a standardised questionnaire. Further information was obtained from case notes perusal, patients' relatives, and nurses who were directly involved in the care of the patient. The survey was approved by the ethics committee of the University Hospital.

Results

Demographics

There were 387 admissions to the medical wards during the two week period surveyed. Seventy four (19.1%) were aged 65 years and above. Of these, 31 (8%) were aged 75 years and above, constituting the very elderly. Forty-two patients (56.8%) were male with a mean age of 73.5 years (range 65-83 years) and thirty-two patients (43.2%) were female with a mean age of 73.7 years (range 65-93 years). There were 46 (62%) Chinese, 18 (24%) Indians, 9 (12%) Malays, and 1 (2%) Eurasian. A third (25 patients) of those surveyed had no formal education, 36 patients had a primary education and 13 patients had secondary education. Eleven patients (14.8%) lived alone or only with their spouse. Fifty eight (78.3%) were living with their spouse and family. Five patients (6.8%) were from nursing or old folks homes.

Presentation

Forty-nine patients (66.2%) in the survey were self referred, 11 (15%) were referred by private general practitioners, and 10 (13.5%) were secondary referrals from private or government hospitals. The commonest presenting complaint necessitating admission to hospital was shortness of breath. This was found in 24 patients (32.4%). Fifteen patients (21.6%) presented with other cardiorespiratory symptoms such as cough (5 patients), chest pain (9 patients) and leg swelling (2 patients). Neurological symptoms such as fits, weakness of limbs and slurring of speech were presenting features in 15 patients (20%). Gastrointestinal symptoms (dyspepsia, vomiting, diarrhoea, or epigastric pain) were the main complaints of nine patients (12.1%). Non-specific presentations ("tired", "unrousable", "giddiness", not eating or drinking) were noted in 18 patients (24%). Of these, 13 patients were aged between 65 and 75 years and five were over 75 years of age. Confusion was present in 10 patients. Twenty-three had significant problems with mobility and 18 were incontinent of urine.

Diagnosis

Table I shows the distribution of the main medical problems seen categorised by broad diagnostic grouping. Findings from an analysis of all medical

admissions at Kuantan General Hospital in 1987³ are appended for comparison. Cardiovascular and neurological conditions, in particular stroke, were found to be the most important causes of admission. Table II shows the distribution of specific primary problems and figures from the Kuantan study are appended for comparison. Table III shows the final diagnoses for those patients who had a non-specific presentation. Associated medical problems found at admission are listed in Figure 1. Multiple pathology (three or more medical problems) were found in 53 (71.6%) patients on admission. It can be seen that hypertension, cataracts and diabetes mellitus were very common co-morbidities.

Management

Referral to other sub-specialties (mainly to cardiology and gastroenterology) were required in 19 patients. Of these, 8 underwent invasive diagnostic and therapeutic procedures such as E.R.C.P., upper gastrointestinal endoscopy, coronary angiography and peritoneal dialysis. There were 25 (33.8%) patients who received physiotherapy for chest and neurological problems. None were referred for occupational or speech therapy for assessment. There were no requests for a social worker assessment of any patient. Multiple medications (three or more drugs) were noted in 32 of the 62 patients who were discharged from the hospital.

Table I
Distribution by diagnostic grouping of elderly patients in University Hospital compared to all medical admissions in Kuantan General Hospital³

| Diagnostic group | UHKL 1993 >65 years (n=74) | Kuantan G.H. 1987 ³ All age groups (n=3728) |
|-------------------|----------------------------------|--|
| Cardiovascular | 35.1% | 25.6% |
| Neurological | 22.9% | 8.1% |
| Respiratory | 13.5% | 10.7% |
| Gastro-intestinal | 9.5% | 12.8% |
| Endocrine | 2.7% | 10.6% |

Table II
Distribution by specific primary medical problems of elderly patients in University Hospital compared to all medical admission in Kuantan General Hospital³

| Specific primary medical problem | UHKL 1993 >65 years (n=74) | Kuantan G.H. 1987 ³ All aged groups (n=3728) |
|----------------------------------|----------------------------|---|
| Stroke (C.V.A.) | 20.3% | 3.9% |
| Congestive cardiac failure | 17.6% | 1.1% |
| Ischaemic heart disease | 13.5% | 7.0% |
| Septicaemia | 5.4% | 3.6% |
| Pneumonia | 4.1% | 1.1% |
| Asthma | 4.1% | 4.5% |
| Hypertension | 2.7% | 13.8% |
| Diabetes mellitus | 2.7% | 10.2% |

Table III
Final diagnoses of the 18 patients who presented with non-specific symptoms

| Non-Specific Presentation Final Diagnosis | Number of Patients (n=18, 5 deaths) |
|---|-------------------------------------|
| Pneumonia | 4 |
| Hypertension | 3 |
| Cerebrovascular accident | 2 |
| Hypoglycaemia | 2 |
| Cardiac failure | 2 |
| Septicaemia | 1 |
| Dengue fever with fulminant hepatitis | 1 |
| Dehydration | 1 |
| Atrial fibrillation | 1 |
| Myelodysplastic syndrome | 1 |

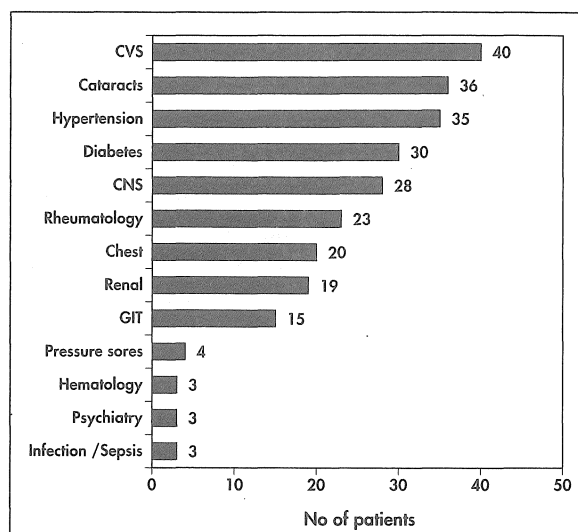


Fig. 1: Associated medical problems on discharge

Outcomes at discharge

The average length of hospital stay was 5 days (1-16 days). Twelve patients (16.2%) died in hospital. The causes of death were mainly of a cardio-respiratory nature such as pneumonia (3 patients), cardiac failure (2 patients), and carcinoma of the lung (1 patient). Other causes included renal failure, cerebrovascular accident, diabetic ketoacidosis, and one case of a gastrointestinal bleed. Of the sixty-two patients that were discharged from hospital, 5 were sent to nursing homes. Thirty-nine (63%) had further follow-up. Twelve were reviewed at the Primary Care Department and twenty one patients were followed up at Specialist Clinics at the University Hospital. Six attended a private general practitioner. One patient was prescribed a wheelchair as an aid at discharge. Twenty-eight patients (37.8%) probably required further rehabilitation at discharge as they scored 15 or less on the Barthel Activity of Daily Living Index⁴⁵ at the time of discharge.

Discussion

This survey characterises the different dimensions of geriatric admissions to the University Hospital, Kuala Lumpur, over a two week period. A fairly large proportion (19.1%) of admissions to medical wards are elderly people. A significant percentage (42%) of

these elderly patients are from the very elderly age group (over 75-years-old). The greatest increases in the Malaysian elderly are expected in the over 75 age group⁶. This increasing proportion of the very elderly who have a larger burden of chronic disabilities and illnesses will, in the future, place increasing demands on our secondary healthcare system.

There were 11 patients (14.8%) who lived alone or only with their spouse. These would be the cases most "at risk" and are likely to require social support to maintain an independent lifestyle after a period of hospitalisation. The majority of the patients surveyed lived with their children and were in a better position for a successful discharge from the hospital. The aged dependency ratio, a demographic measure roughly suggesting the extent to which persons in the economically active ages have to support the aged, has shown a consistent increase for the past two decades⁶. This trend is likely to continue in the foreseeable future.

This survey has demonstrated that elderly patients differ in the mode of presentation. A quarter of those, who were legitimate admissions presented with non-specific symptoms⁷. These, in particular, require more patience in history taking and physical examination to establish the correct diagnosis (Table III). The problems may be specific but the doctors may be too pressed to spend much time over an elderly patient. Multiple pathology is a hallmark of the elderly medical patient. In this study, over 70% had 3 or more medical problems (Figure 1). It would be more appropriate for care of such a patient to be under a generalist rather than a medical super-specialist. This should allow a broader view of all the problems and referral to the appropriate sub-specialty if required. Referral to other sub-specialties were required in nineteen (25.7%) patients highlighting the need for any future geriatric service to be an integral part of the main hospital complex.

The survey has shown that more than a third of the elderly patients needed rehabilitation. There was no utilisation of other rehabilitation therapies such as occupational or speech therapy. A lack of awareness amongst junior doctors and the high turnover rate of patients may have reduced the referral rate. The Barthel Index of Activities of Daily Living⁸ is a useful

tool in the ward to assess whether a patient can function independently, or if additional support and rehabilitation is required. On discharge, 28 (37.8%) patients had a Barthel's Index of < 15/20 indicating that further rehabilitative input may have been of benefit, perhaps provided in a day care centre. A higher proportion of stroke and cardiovascular disease as the primary medical condition is seen in the elderly compared with the Kuantan data where the majority (85.7%) of the patients seen were below the age of 65 years (Table II). The elderly are more likely to acquire chronic diseases which result in disabilities, hence a rehabilitative approach is an integral part of the management of a sick elderly patient⁹.

With greater drug usage and polypharmacy the incidence of adverse drug reactions is more prevalent in the elderly¹⁰. Thirty-two (50%) patients were noted to be on multiple drug therapy on discharge. There is a need to monitor and rationalise drug usage in the elderly age group to reduce the incidence of iatrogenic complications and adverse drug reactions.

Optimization of medical care of the elderly will need a multi-disciplinary approach utilising a comprehensive geriatric assessment programme. A comprehensive geriatric assessment (CGA) may be defined as an integrated approach to screening and diagnosis of physical, psycho-social and functional disabilities in the older person¹¹. The value of CGA has been evaluated in an inpatient setting which demonstrated that this approach can improve selected aspects of medical care of the elderly, leading to improved patient outcomes¹².

With the view of improving the medical care of our elderly inpatients, a multidisciplinary team comprising of geriatricians, a psychiatrist, physiotherapist, occupational therapist and a social worker has been formed. This team is involved in the assessment and optimization of care of all referred geriatric cases from medical and other specialities. A geriatric assessment clinic and ward have been proposed. Teaching of geriatric medicine to undergraduates, post-graduates and nursing staff have been introduced to enhance their knowledge in the complexities of care in the elderly. There is a dire need for further research on the appropriate management of clinical problems in the elderly Malaysian.

Conclusion

All physicians involved in the care of elderly patients need to be aware of the varied dimensions of geriatric health behaviour as outlined in this survey. The elderly sick patient is likely to under-report and hence present in a more advanced stage of his illness. Altered pattern of illness or non-specific presentations may lead to further delay in accurate diagnosis and effective management of the patient's illness. Comprehensive services comprising of acute, rehabilitation and long

term care are required and must be linked with primary health care and community provision for elderly people.

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