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Role Of Physician In The Era Of Superspecialities- A Study From Peripheral Hospital

KEYWORDS

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ABSTRACT ***Background***

Practice of internal medicine in remote area with austere conditions , limited logistics and environmental factors makes the decision making difficult. There is paucity of literature available on experience of physician in remote areas.

Results

(a) Terrain related disorders:There were 35 cases of HAPO , 04 cases of HACO including one death,10 cases of lightning injuries, 65 cases of DVT, 04 cases of pulmonary thromboembolism, 02 cases each of mesenteric vein and acute limb ischaemia.

(b) Lifestyle disorders: We had 320 cases of hypertension, 154 cases of coronary events out of which 65(42%) were STEMI, 87(56%) were unstable/ stable angina and 02 (1.3%)cases were prizmetal angina. 58 cases of cerebrovascualr accidents out of which 43(77%) were ischaemic strokes, 09 (14%) haemorrhagic and 06(9%) were venous infarcts.

(c) Tropical diseases: There were around 490 cases of viral hepatitis and 45 cases of amoebic liver abscess and 106 cases of malaria.

Conclusions

Understanding the medical morbidity in remote area with austere conditions and logistic constraints will help in adequate planning and acquiring necessary skills to deliver medical care in the peripheral areas.

Introduction

The practice of internal medicine in a peripheral hospital away from main city is a unique challenge. The austere conditions and limited logistics make the decision making more difficult. There is paucity of literature on the role of physicians and morbidity profile in remote areas.[1] Physicians working in remote areas have diverse roles, consisting of care of the both the medical and accidental injuries[2]. Hence this article is aimed at analyzing the profile of medical morbidity and the role of physician in such areas.

Material and methods

This study was carried out in a peripheral hospital situated in a remote area in the northern region of the country. This study was carried out over three years starting from 2011 to 2014. We listed major illnesses that carried significant morbidity and mortality. We excluded all the patients who required less than 05 days of hospitalization.

It was an observational cross sectional study where in all patients who were admitted in the hospital in medical ward were included. The admission and discharge registers, case sheets and other relevant documents were perused for data collection.

Exclusion criteria:

<5 days of admission

Patients with age< 18 yrs and >60yrs.

Recurrent admissions for the same illness/ admissions due to administrative reasons were excluded.

All the patients underwent detailed history taking, physical examination and relevant investigations. Results thus observed were analyzed using appropriate statistical tools.

Results

Lifestyle disorders

Hypertension**:** We had 320 case of new onset hypertension during the study period. We excluded secondary hypertension in all the individuals by limited renal ultrasound and Doppler studies, however endocrinal work up was not possible.

Cardiovascular events: We had 154 cases of coronary events. Out of them 65 patients (42%) had ST elevation myocardial infarction, 87 patients (56%) were unstable angina and 02(1.3%) consisted of Prinzmetal angina. 44 patients (28%) were < 35 yrs. Thrombolysis was done with Inj streptokinase in 95% of the cases. Details are given in Table 1. We had two cases of pericardial effusion with tamponade who underwent ultrasound guided pericardiocentesis. Defibrillation was done in 03 cases out of which 02 had ventricular tachycardia and one patient had atrial flutter during intraoperatively. No facility of 2D echo made it further difficult to arrive at proper diagnosis.

Cerebrovascular accidents**:** We had 58 cases of stroke. 43 patients (74%) sustained ischaemic stroke. 9 patients (15%) sustained haemorrhagic stroke. 06 patients (10%) had cerebral venous thrombosis. There were 04 deaths constituting 7% cases. Details were given in Table 1**.** Stroke in young constituted 18(32%) of cases. Thrombolysis was done in 02 cases. All of them were referred to tertiary care centre for further workup after stabilization.

Terrain related morbidity:

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High altitude illnesses**:** There were 35 cases of high altitude pulmonary edema (HAPO) and 04 cases of high altitude cerebral edema (HACO) were treated in the study. One person died due to HACO.

Lightning injuries: There were 10 cases of lightning injuries, all of them sustained in one particular incident. All of them survived.

Vascular Thrombosis**:** There was a high incidence of venous thrombosis in this study. Most of the patients were from high altitude area. There were 65 cases of deep vein thrombosis and managed with Inj Low molecular weight heparin followed by oral anticoagulation. There were 03 cases of pulmonary thromboembolism with one patient having bilateral thrombus. 02 patients had mesenteric vein thrombosis presenting with acute abdomen and 02 had arterial thrombosis presenting with acute limb ischaemia. Details are given in table 2.

Tropical diseases

Hepatic disorders: There were around 490 cases of viral hepatitis over a period of 03 yrs, with 340 cases in one particular year (Table2). One patient died with hepatic failure and 04 patients had serum bilirubin >40mg%. 45 cases of amoebic liver abscess were diagnosed during the study period with volume of abscess cavity ranging from 5 ml to 3.5l. Pigtail drainage was done in 9 cases; aspiration of abscess in 13 cases and the rest were managed conservatively.

Infectious diseases**:** Many cases of febrile illnesses that were treated, the diagnosis couldn't be confirmed. However we had 106 cases of smear positive malaria over three years and out of which 76 cases of plasmodium vivax malaria occurred in one particular year.

Physician in trauma care

Thoracocentesis was done in eight cases of trauma due to assault wounds. The physician takes charge of intensive care unit and aids in resuscitation when the surgical team is engaged in operation theatre in mass casualties.

Discussion

The general internal medicine specialist's form–backbone of internal medicine in this era of superspeciality especially in resource limited settings. General internists provide medical care in rural and remote areas encompassing tropical diseases, terrain related disorders and lifestyle disorders. General internists are particularly suited to provide care in community hospitals and in rural and remote areas of the country.[3]

Venous thrombosis was fairly a common occurrence in our study. All DVT cases were managed conservatively. We had three cases of pulmonary thromboembolism without any mortality. Acute limb ischaemia was seen in two cases. In both cases upper limb was involved and both the cases underwent removal of thrombus by a surgeon in our hospital itself. We had 02 cases of mesenteric ischaemia in patients serving at high altitude, presented with acute abdomen and suspected to have mesenteric ischaemia were confirmed intraoperatively.

In our study 320 persons had newly detected hypertension. None of the patients had secondary hypertension and evidence of target organ damage. In this study most of the patients who had STEMI were thrombolysed because of early recognition and non availability of coronary intervention facilities. With the advent of advanced communication it became easier for the medical officers in the periphery to get it verified the ECG findings from the treating physician so that they can plan an early evacuation from further remote hilly areas. This can be done by the mobile apps where by the scanned copy of ECG is sent. In two cases we had Prinzmetal angina which may be due to coronary spasm which was relieved promptly by administration of nitrates by the primary care medical professionals. Timely intervention in 02 cases of cardiac tamponade and Left ventricular thrombus helped in preventing mortality.

Stroke in young constituted 32% which is higher than available literature. Tripathy and Nibha described various diseases including rheumatic heart diseases and vasculitidis as important causes of stroke in young but in our study none of them had Rheumatic Heart Disease or vasculitidis, hence we assumed local factors might have played the role in these vascular syndromes[4]. In contrast to study by Shah et.al, who reported high incidence of hemorrhagic stroke in the similar geographical terrain as the study was carried we found to have more ischaemic strokes as with rest of the country.[5] We had significant number of cerebral venous thrombosis cases especially from the persons from high altitude area. It requires high degree of suspicion in diagnosing these cases as the symptoms may be nonspecific.

We had 470 cases of viral hepatitis out of which 330 cases occurred in one particular year. We had four cases whose serum bilirubin was more than 40mg% and they were evacuated to tertiary care hospital and rest of the cases were managed locally and none of them had acute hepatitis B infection . High end viral markers like HBV DNA,HCV RNA, IgM anti HB_C were not available. We had significant no. of amoebic liver abscess cases. Most of them were managed conservatively and, intervention, if necessary was done with the help of a ultrasound machine. The reason for the increased no. of cases may be due to increased catchment area of the hospital or may be due to the drinking of contaminated water due to poor infrastructure. The significant no. of malaria cases in our study may be due to individuals carrying the parasite while coming back from other areas, since malaria per se is uncommon the terrain where the hospital is situated. [6,7].

High altitude illnesses pose a significant challenge for physicians especially working in high altitude areas. Their spectrum and management is completely different and requires sensitization and awareness before they move to those locations. We had 35 cases of HAPO and all of them recovered. High altitude cerebral edema was seen in 04 cases. One case of HACO was managed in hyperbaric chamber for four hrs as he couldn't be evacuated and subsequently died. Most of the cases of HAPO were managed at the same altitude. In our study all the lightning injuries occurred in a single event where the individuals were in the open on a rainy day. When they were evacuated to the hospital in an unconscious state, it was difficult to ascertain the diagnosis except for the cutaneous lesions [8] Standard textbooks are not covering these topics during MD curriculum. Residents on duty are not likely to see such cases, therefore needs a sensitization and exposure to manage such cases.

Conclusion

The role of physicians will remain even in the era of superspecialties in providing basic health care in remote and

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rural areas. Acquiring necessary technical skills and knowledge of the terrain will go a long way in providing necessary care to the patients at an affordable cost.

Table1 showing results of life style diseases

New onset Hypertension	320
Coronary syndromes	
Total cases	154
STEMI	65(42%)
Unstable angina/ Angina	87(56%)
Prinzmetal angina	02(1.3%)
Age < 35yrs	44(28%)
Mortality	03(2.1%)
Cerebrovascular diseases	
Total cases	58
Ischaemic stroke	43(74%)
Haemorrhagic stoke	9(15%)
Cerebral venous thrombosis	6(10%)
Stroke less than 40 yrs	18(31%)
Mortality	4(7%)

Table2 showing results of terrain related illnesses

High altitude illnesses	
High altitude pulmonary edema	35
High altitude cerebral edema	04
Lightning injuries	10
Vascular Thrombosis	
Total cases	72
Deep vein thrombosis	65((90%)
Pulmonary thromboembolism	03(4%)
Mesenteric vein thrombosis	02(3%)
Acute limb ischaemia	02(3%)
Tropical diseases	
Viral hepatitis	490
Liver abscess	55
Malaria	110

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