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QUESTIONNAIRES BASED SURVEY ON COMPREHENSIVE KNOWLEDGE ABOUT ADRENAL DISORDER IN MEDICAL STUDENTS IN CENTRAL INDIA

Medical Science

KEYWORDS : AWARENESS, ADREANAL DISEASE

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ABSTRACT

BACKGROIND*-India accounts for more than 1/5th of world"s tuberculosis cases.Post tubercular adrenalitis as adrenal insufficiency is one of commonest cause of cardiovascular instability leading to shock and death in India.* ***MATERIAL AND METHOD -*** *1st, 2nd, 3rd year post graduate residents of General medicine and interns (each 14) were included in our study. They were surveyed regarding knowledge about adrenal disease by giving them a questionnaire.****RESULT****-Mean awareness score for residents of 1styear 7.21 ±2.806, 2nd year 6.79±2.119, 3rd year 6.64 ±2.818, interns are 6.63±2.505.When we saw the breakup of correct responses it was maximum by the 1st year resident, followed by 2nd year and 3rd year. Interns gave least number of correct response* ***CONCLUSION****- There is lack of awareness regarding diagnosis and management of adrenal disorders in central India. We need to prioritize training related to these illnesses in our post graduate teaching curriculum in practice*

Introduction

Adrenal disorders are multifaceted, involving genetics , autoimmunity, infection and environmental endocrine influences as the etiological trigger. In India diseases affecting the adrenal glands are an example of environmentally induced endocrine diseases. Adrenal disorders in the form of adrenal insufficiency, Cushing syndrome, secondary hypertension (Pheochromocytoma ,Conn's syndrome) ,congenital adrenal hyperplasia (CAH) are treatable and have avoidable morbidity and mortality. Post tubercular adrenalitis leading to insufficiency has been noticed in 46-56% patients and when further investigated the number raise to 70-75% **[1].** During last decade the incidence of HIV /AIDS has also contributed in increasing the number of cases presenting as adrenal insufficiency. Infection is the commonest cause of adrenal insufficiency in India. Adrenal insufficiency is one of the commonest cause of cardiovascular instability leading to shock and death in India. Cortisol deficiency leading to hypotension, shock and non reviability of patient is commonly encountered. The diagnosis and management of primary adrenal insufficiency needs high degree of suspicion, acumen, knowledge about adrenal disorders and a protocol based approach is required **[2,3,7]** .CAH is an autosomal recessive disorder of defective steroid genesis is as common as 1/10000 to 1/20000 for salt wasting/simple virilising CAH and for the milder varieties like non classical CAH the incidence is 1/1000 cases. India is at the epoch of socioeconomic transition and diseases like obesity, polycystic ovarian disease (PCOS) are nowadays very common amongst young females . CAH comes in the close differentials of these illnesses . Gender assignment, short stature , Infertility, delayed puberty, ,metabolic syndrome are the critical challenges which are to be addressed in CAH**[4]**. Secondary hypertension presenting as episodic hypertensive crisis ,hyperadregenism ,and myriads of presentation in the form of family history, associated endocrine illnesses , neurocutaneous markers, high blood sugars needs integrated approach towards diagnosis and management of pheochromocytoma **[5]**. Hypertention, hypokalemia , sometimes weakness presenting as primary hyperaldosteronism i.e Conn's syndrome is one of a commonly presenting illness **[6]** .The burden is high in our clinical practice but the level of awareness is not that high amongst medical graduates and post graduates students . A very few studies have been conducted to test the awareness of adrenal disorders amongst interns and Post graduate students(General Medicine). Hence an attempt was made to find out the knowledge and their preparedness to tackle the disease among interns and Post graduate students.

AIMS AND OBJECTIVES

The aim of this study was to assess whether medicos have awareness about the disease and how well they are prepared to tackle the disease.

MATERIAL AND METHODS

This was an open cross-sectional survey. Participants were the postgraduate students and interns posted in the Department of Medicine Gandhi Medical College ,Bhopal, Madhya Pradesh.The questionnaire covered a range of questions (12 questions in total), including adrenal insufficiency, adrenal adenoma , Congenital adrenal hyperplasia,Pheochromocytoma, Conn's syndrome. The questionnaire consisted of multiple choice questions. No research ethics committee approval is needed for the conduct of this kind of patient survey.No data on age and gender were collected in order to further protect the individual identity of the participants. A select 12 questions that would test basic knowledge about the disease was set by the author and distributed among the interns and postgraduate students without allowing them for discussion. Each question was allotted one mark. The questionnaire was given to every participant, who answered the questions anonymously and the answers were kept confidential. The survey was open from21st to 23rd may 2016. The data were analyzed descriptively (frequency analysis) by disease type, treatment and dosing regimen.

OBSERVATION

TABLE 1-AWARENESS PERSENTAGE AMONG DOCTOR GROUPS

Awareness for Group of questions	Resident 1st year	Resident 2nd year	Resident 3rd year	Interns	All Doctors
Questions for Adrenal disease	52.4%	45.2%	47.6%	36.9%	45.5%
Questions for Diagnosis of adrenal disease	64.3%	69.0%	54.8%	42.9%	57.7%
Questions for Treatment of adrenal disease	71.4%	64.3%	71.4%	50.0%	64.3%

TABLE 2-MEAN SCORES

Doctors groups	Mean	Std. Deviation	Minimum	Maximum
Resident 1st year	7.21	2.806	2	11
Resident 2nd year	6.79	2.119	3	10
Resident 3rd year	6.64	2.818	2	11
Interns	4.86	1.657	3	9
All doctors	6.38	2.505	2	11

RESULTS

There were 56 students i.e 1st, 2nd, 3rd year post graduate residents of General medicine(n=14x3) and interns(n=14). They were surveyed regarding the knowledge about adrenal disease by giving them a questionnaire containing 12 questions with 1 mark for each correct response. It was found that the residents who answered correctly for adrenal disease related disorders were 45.5%,(maximum by 1st year 52.45 , minimum by interns 36.9%) , related to diagnosis 57.7%(maximum by 2nd year 69% , minimum by interns 42.9%),related to treatment 64.3%(maximum by 1st and 3rd year 71.4% , minimum by interns 50%) **(Table -1).**

Answers to a question regarding how commonly is adrenal insufficiency diagnosed in medical ICU, none of the individuals responded correctly. Overall correct response was maximum for congenital adrenal hyperplasia (63.4%) and minimum for adrenal insufficiency(47.6%). Mean awareness score for residents of 1styear 7.21 ±2.806, 2nd year 6.79±2.119, 3rd year 6.64 ±2.818, interns are 6.63±2.505**.(Table- 2)**

DISCUSSION

Endocrine disorders in several million children and adults in India remain undetected and untreated because of inadequate professional expertise and a lack of reliable diagnostic services. Therapeutic benefits are not available to millions suffering from endocrine diseases in this country. General practitioners and some specialists often fail to suspect endocrine disorders, even in likely cases. Studies have shown that in India 1 in every 4 patients with tuberculosis has adrenal involvement, yet few are investigated for this. Adrenal insufficiency due to tuberculosis may account for thousands of deaths annually.

Endocrine training in India consists of a brief non formal exposure during post graduate training in the form of patients admitted in wards being treated for additional endocrine illnesses , the curriculum of exams usually doesn't have cases of diabetes ,thyroid and other endocrine illnesses. Neurology, cardiology , pulmonology and gastroenterology forms the major chunk of postgraduate curriculum in General medicine, where endocrine training is the less sort after.

the mean score was 6.38 ±2.505, score ranged from 2 to 11 marks. This is clear reflection of lack of priority, acumen and awareness of adrenal disorders in our medical teaching curriculum which is actually followed.

When we saw the breakup of correct responses it was maximum by the first year resident, followed by second year and third year. Interns gave the least number of correct response. This can be explained by the preparation during the postgraduate examinations , which has improved the knowledge amongst the first year residents as compared to interns and later during the second and third year of residency the knowledge has declined because of less discussion in clinical rounds , case presentation and awareness of adrenal disorders during training.The trend of awareness , diagnosis and management of adrenal disorders followed the same pattern as the responses given above .Similar issues are addressed in a editorial by Sarita Bajaj et al **[8].**

Answer to a question regarding how commonly is adrenal insufficiency diagnosed in medical ICU, none of the individuals responded correctly. Commonality of adrenal disorders were not acknowledged by all the participants in our study.There is huge responsibility on the medical teaching fraternity for the diagnosis , management and treatment of adrenal disorders in central India. Seeing to commonality of adrenal related illnesses and large number of cases there should be awareness amongst the postgraduate students in medicine regarding adrenal related illnesses. There are less opportunities in terms of number for Endocrine related Post MD training in India. We need to make our post graduates in Medicine well versed with the knowledge of adrenal disorders.

CONCLUSION

Adrenal disorders are common in India. There is lack of awareness regarding diagnosis, management and treatment of adrenal disorders in central India. We need to prioritize training related to these illnesses in our post graduate teaching curriculum in practice.

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