Pattern of Presentation of Backache and Association between Profession and Age with Backache; Study Conducted in Tertiary Care Hospitals; Karachi

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Abstract

Objectives:

1. To study presentation of backache.
2. To find out association between profession and age with backache.

Materials and Methods: This cross sectional study was conducted in the department of Neurosurgery and Urology, Baqai University Hospital Karachi and department of Neurosurgery Abbasi Shaheed Hospital Karachi from Feb 2015 to Dec 2017. It was non-probability purposive sampling consisting of 100 cases. All consecutive low back ache patients from 15 to 60 years along with those with known cause for low backache related to other specialty and remained well after subsequent expert's management were included while terminally ill patients were excluded.

Results: There were 35 males. Mean age of the patients was 44 years with SD 13, minimum 15 and maximum 80. In females 66% were house wives. Seventy six cases exhibited typical pain. Mean duration of pain was 2.7 months with SD three, minimum one and maximum 24. Most prevalent risk factor was obesity (22%). Straight leg raising sign was positive in 37. Degeneration was the most common finding in x-ray back (26). Mostly (51) exhibited moderate pain. Forty four were dealt with non-surgical /conservative management. 67% cases had DM and the same percent hypertension. The most common finding in MRI/CT was muscle spasm (37%). Eight patients had associated small renal stones. Out of these two had stone size of 0.8 cm and 1.0 cm, remaining six had less than 0.4 cm size. No association was found between profession and backache (p = 1.02) while that between age group and backache was significant (p = 0.005).

Conclusion: Profession was not significantly associated Intensity of backache However age group was significantly associated with pain intensity.

Keywords: Backache; Risk Factors; Assessment Protocol and Management Strategy

Abbreviations

ESWL: Extra Corporeal Shock Wave Lithotripsy; CT: Computer Tomography; MS: Metabolic Syndrome; BMI: Body Mass Index; QoL: Quality of Life; SD: Standard Deviation; MRI: Magnetic Resonance Imaging

Introduction

"It is estimated that up to 84% of adults have low back pain at some time in their lives" [1,2]. Patients who are having low back pain present for more than 12 weeks are labeled as Chronic Backache [3] while those with less duration, as Acute or Sub acute. "In 2010, back

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symptoms were the principal reason for 1.3% of office visits in United States" [4]. In many surveys, prevalence of low back pain have ranged from 22% to 48% depending on the population and definition [2,5,6]. "National Health Interview survey [5] found that 26% of respondents reported low back pain lasting for only one day in approximately three months". Low back pain is not a disease in itself, but rather a symptom with many causes [7]. "More than 85% of the patients seen in primary care have nonspecific low back pain" [8,9] while less than one percent have a cauda equine syndrome, metastatic or primary cancer and spinal infection [10,11]. "Urolithiasis often refers pain to the back, flank and groin regions depending on the location of the calculi" [12]. "Urolithiasis is a common disease, estimated to affect 11% of men and 7% of women in their lifetime" [13].

Almost all patients with these conditions will have risk factors or other symptoms. Treatment for chronic low back pain persisting for over 3 months falls in to three broad categories; monotherapies, multidisciplinary therapy and reductionism [11]. Determining the definite cause of low backache requires thorough clinical evaluation and proper risk factors assessment along with relevant investigations. Furthermore, since some of these patients are also candidates for discectomy and decompression with fixation, it is imperative upon the concerned multidisciplinary research oriented team to identify the exact cause of low backache and man-age it accordingly. There is a pre-defined debate on age, psychosocial and profession related backache issues but as yet no such trial has been conducted to devise a proper relationship among these parameters. Hence it is a time tested need to develop a systematic approach for assessment and management by a research oriented multidisciplinary team having different domains of specialty.

Therefore the aims of this study was to identify the probable cause, predisposing factors and devise an assessment protocol for lower backache patients to help experts formulate a cost effective, safe and fruitful approach for this population.

Materials and Methods

This cross sectional study was conducted in the department of Neurosurgery and Urology, Baqai University Hospital Karachi and department of Neurosurgery Abbasi Shaheed Hospital Karachi from February 2015 to December 2017. It was non-probability purposive sampling consisting of 100 cases. All consecutive low back ache patients from 15 to 60 years along with those with known cause for low backache related to other specialty and remained well after subsequent expert's management were included while terminally ill patients were excluded. Approval was obtained from ethical review committee. Informed consent was obtained from all patients regarding acquisition of demographic, clinical and radiological imaging. All patients were assessed and followed according to specially designed proforma with definitive plan to treat the cause safely in a multidisciplinary fashion. Detailed history was taken and clinical examination performed. Investigations including relevant X-Ray and Magnetic Resonance Imaging findings were recorded in proforma. The data were analyzed in SPSS version 16. Mean and SD were calculated for continuous variables like age and duration of pain. Categorical variables like gender, SLR, type of pain were analyzed and exhibited through graph. Multiple response analysis was applied to comorbid, x-ray and MRI findings.

Results

There were 35 males. Mean age of the patients was 44 years with SD 13, minimum 15 and maximum 80. In females 66% were house wives. Seventy six cases exhibited typical pain. Mean duration of pain was 2.7 months with SD three, minimum one and maximum 24. Most prevalent risk factor was obesity (22%). Straight leg raising sign was positive in 37. Degeneration was the most common finding in x-ray back (26). Mostly (51) exhibited moderate pain. Forty four were dealt with non-surgical/conservative management. Among co-morbids 67% cases had Diabetes Mellitus and the same percent hypertension. The most common finding in MRI/CT was muscle spasm (37%). Eight patients had associated small renal stones. Out of these, two patients whose stone size was 0.8 and 1.0 cm respectively were treated with Extra Corporeal Shock wave lithotripsy (ESWL) and remaining six, whose stones were less than 0.4 cm were treated with medical dissolution therapy.

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Thirty patients remained well without an intervention just by adequately controlling risk factors. Only one patient was given epidural injection of lignocaine and steroid with improvement of symptoms up to more than one year follow-up. No association was found between profession and backache (p = 1.02, table 1) while that between age group and backache was significant (p = 0.005, table 2).

Profession	Intensity of pain			Total
	Mild	Moderate	Severe	
House wife	14	21	7	42
Driver	5	1	2	8
Mechanic	1	0	0	1
Wall man	0	1	0	1
Retired	1	0	0	1
Teacher	4	3	1	8
Labourer	3	12	0	15
Other	4	12	7	24

Table 1: *Association between Profession and Back Ache.*

Chi square P = 1.02.

Age Group (y)	Intensity of Pain			Total
	Mild	Moderate	Severe	
1 (15 - 30)	10	10	8	28
2 (31 - 45)	9	18	3	30
3 (46 - 60)	12	22	10	44
4 (> 60)	1	1	4	6

Table 2: *Association between Age and Backache.*

Chi square p = 0.005.

Discussion

In the study in hand mean age of the patients was 44 years (SD 13), minimum 15 and maximum 80 years. In the other study conducted in Lucknow, India it is 41 (22 - 70) years [14]. In the present study a uniform pro-forma was applied to all cases. The mean age is similar in the two studies. In this study female constituted 65% of the cases. In the study conducted in Lucknow [14] the figure is 54%. The similarity between the results could be due to similar social and family setup in the two countries.

In this study most common profession in women was teaching (7%) while that in men it was labor (15%). In the study conducted in Lucknow [14] 9.7% of the male are heavy workers [14]. The result is similar to that found in this study due to similar socioeconomic condition. Results of this study showed 32% of the cases had mild, 51% moderate and 17% severe pain. In the other study conducted in USA [15] 6.4% are found having severe while 11.3% moderate pain. The difference between pain intensity prevalence could be due to better life style and preventive measures taken in USA than in our country.

In this study mean duration of pain was found 2.6 months with minimum one and maximum 24. In the other study [14] it is 2.4 months (3.5 - 36). In the study in hand Straight Leg Raising test (SLR) was found restricted in 37% of the cases where as in the other study [14] it

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is 23%. Straight Leg Raising test is one of diagnostic signs of spinal issues. In this study most common comorbid was DM found in 12% of the cases. In the study conducted in Texas [16] it is found 7%. Slightly more preponderance of DM among backache patients in this study could be secondary to depression uttering the limitation of the study.

Regarding risk factors, 44% of the depressed patients, 25% of smokers and 14% obese patients developed severe backache. In other study [17] both overweight and obesity are found risk factors for lumbar radicular pain. This pain can predict number of symptoms and duration of management as a team. Prior interview related to depression (neuro-cognitive) should be considered to predict the overall outcome.

Overweight and obese persons are more prone to pro inflammatory state manifesting as Metabolic Syndrome (MS) but also to a higher prevalence of chronic pain related comorbidities. Obesity and a high Body Mass Index (BMI) are associated with impaired functional capacity and reduced quality of life (QoL) in patients with condition [18]. Later on similar kind of trials on larger scale will be required to address further about neurosurgical outcome details in connection to future perspective.

Conclusion

Profession was not significantly associated with intensity of backache however age group was significantly associated with pain intensity. The outcome was most favorable for surgical treatment in patients having typical backache with neurological findings, restricted SLR tests and correlative imaging. However, an initial conservative approach seems advisable for many patients because preventive measures and minimally invasive interventions are significantly effective in controlling backache and optimizes major neurosurgical load with fruitful outcome.

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