CLINICAL PRESENTATION OF SPONTANEOUS INTRACRANIAL HEMORRHAGE

Shams-ur-Rehman[1], Amanullah[2], Amir khan[3], Abdul Wali[4], Mohammad Adil Sardar[5], Imran Khalil[6], Saba Shams[7], Sara Shams[8]

ABSTRACT

Objective: To determine the degree of association of various clinical features and/or risk factors with Spontaneous intracranial hemorrhage in 100 cases.

Background: Spontaneous Intracranial Hemorrhage is the Spontaneous Pathological accumulation of blood in the cranium. A distinction is made between intra-axial hemorrhage (blood inside the brain) and extra-axial hemorrhage (blood inside the skull but outside the brain). When this event manifests in sudden onset of focal neurological deficit that lasts for more than 24 hours it is known as Hemorrhagic stroke. Intracranial hemorrhage accounts for 8-13% of all strokes and results from a wide spectrum of disorders. Intracranial hemorrhage is more likely to result in death or major disability than ischemic stroke. Having a sound knowledge about the clinical presentation that point towards an intracranial hemorrhage is very important. This study compared the clinical presentation of patients presenting with intracranial hemorrhage and determined the reliability of each feature associated with this event.

Methods:This descriptive study was conducted on 100 patients of Spontaneous Intra-cranial Hemorrhage at Mardan Medical Complex Teaching Hospital [MMCTH], Mardan from Jan 2012 to Oct 2012. An in-depth history and examination was conducted in order to look for features that can be consistently linked with this clinical event.

Results: We found that vigilant history and clinical examination reveals strong affiliation between a few features and this clinical event.

Conclusions: With a comprehensive history and methodical clinical examination is a strong affiliation of Old age, Headache, vomiting, Hemiplegia, Hypertension and smoking was found with Spontaneous intracranial hemorrhage.

Keywords: Spontaneous intra-cranial hemorrhage, Stroke, Hypertension

INTRODUCTION

Intracranial hemorrhage accounts for 8-13% of all strokes and results from a wide spectrum of disorders. Asian countries have a higher incidence of intracranial hemorrhage than other regions of the world.[1] Predilection sites for intracranial hemorrhage include the basal ganglia (40-50%), lobar regions (20-50%), thalamus (10-15%), pons (5-12%), cerebellum (510%), and other brainstem sites (1-5%).Intracranial hemorrhage has a 30-day mortality rate of 44%. Pontine or other brainstem intracranial hemorrhage has a mortality rate of 75% at 24 hours[2] Intracranial hemorrhage is more likely to result in death or major disability than ischemic stroke. Picking a case of Intracranial Hemorrhage on arrival or early is important because it has a far standing implication on the treatment and prognosis of the patients.[3, 4]

Clinical History and Examination (Clinical Presentation) surely leads to picking of strong evidence that plugs towards intracranial hemorrhage.[3] It may also show the volume or site of hemorrhage.[5] This study helps in determining the reliability of clinical features and risk factors that are associated with Spontaneous intracranial hemorrhage.[6]

MATERIALS AND METHODS:

This descriptive study was conducted in Medical A Unit, Mardan Medical Complex Teaching Hospital, Mardan after getting permission from the local ethical committee of the hospital. A total of 100 cases of Spontaneous intracranial hemorrhage admitted in the period

[1] Department of Medicine,Gajju Khan Medical College, Swabi, KPK, Pakistan
[2] Department of Medicine,HMC,KGMC Peshawar, KPK, Pakistan
[3] Department of Medicine MMCTH,BKMC,Mardan, KPK,Pakistan.
[4] Department of Cardiology, MMC TeachingHospital, Bacha Khan Medical College, Mardan, KPK, Pakistan
[5] Final year MBBS,Army Medical College Rawalpindi,Pakistan.
[6] Department of Medicine, MMC TeachingHospital, Bacha Khan Medical College, Mardan, KPK, Pakistan
[7] 3rd year MBBS, Peshawar Medical college Peshawar KPK,Pakistan
[8] 2nd year MBBS, Khyber Medical college Peshawar,KPK,Pakistan.

Corresponding author:
Dr. Shams-ur-Rehman
Department of Medicine,Gajju khan medical college,Swabi,KPK, Pakistan
E-mail: drshamskhan@yahoo.com

of Jan 2012 – Oct 2012 was included in this study.

A well versed proforma was prepared in which identity of the patient and a few clinical features and risk factors attributed to Spontaneous Intracranial Hemorrhage were included. The following risk factors and/or Clinical features were specially considered:

- Age,
- Sex,
- Blood Pressure on arrival,
- Fever,
- Headache,
- Vomiting,
- Loss of consciousness,
- GCS,
- Magnitude and intensity of focal deficit,
- Hypertension,
- Diabetes Mellitus,
- Dyslipidemia,
- Smoking and Previous History of a similar attack.

The following criterion was followed for selection of patients:

Patients who presented with a sudden and spontaneous onset of focal neurological deficit and had intracranial hemorrhage confirmed on CT scan. These patients had no history of Head Injury or assault.

The Clinical Presentation of these patients was revisited for the purpose of the study. Information about the above mentioned points was entered into the proforma. This magnitude of reliability of these Risk factors/ Clinical Features was then studied according the data collected.

RESULTS

Age 83% (83 out of 100) of the patients presented at ages fifty and above, 31 among these were above 70, while 17 out of 100 were in the range of 41-50.

Sex 59 among these patients were Male and 41 were Female.See table no;1 for age and sex distribution of these patients.

BP on arrival 6% (6 out of 100) presented in hypotension. 11% (11 out of 100) had a BP in ideal Range (<80/<120). In Pre Hypertension range (85-89/121-139) 14% (14 out of 100) cases were instituted. 9, 21 and 39 patients came in ranges of Stage 1 (90-99/140-159), Stage 2 (100109/160-179), Stage 3 (>110/>180) respectively.

Headache 77% patients (77 out of 100) complained of headache at some stage during the course of disease. Out of these patients 34 complained of severe headache.There is no significant association with the site or size of hemorrhage.[12]

Vomiting 24% (24 out of 100) patients presented with vomiting. Out of these patients 7 had aspirated.

Loss of consciousness 31% patients had almost complete loss of consciousness during acute attack and 11 remained unconscious even the rest of the course of disease. This has a lot to do with the site and size of hematoma.[5,14]

Glasgow Coma Scale(GCS) 11 of the patients had no response to pain, no verbalization, no eye opening (GCS=3). 15 patients had GCS=4-8, 31 had GCS=9-12 and the rest 43 had GCS=13-15. This corresponded to the size of hemorrhage on CT scan to a great extent.

Magnitude and Presentation of Weakness It was

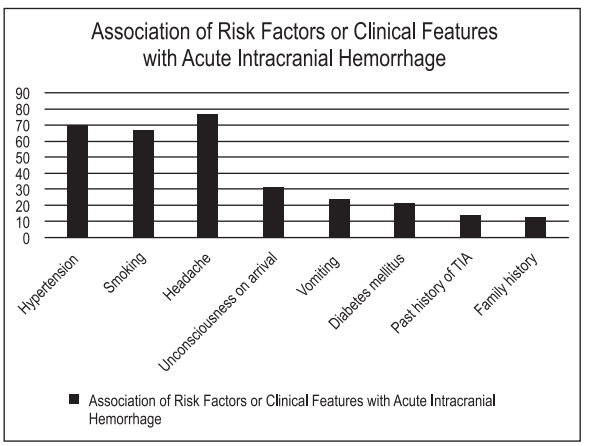

Figure-1: Degree of association of Risk Factors and/ or Clinical Features with acute intracranial hemorrhage

Table-1: Analysis of demographic variables

Age (Yrs)	Total		Male		Female		
	No	%	No	%	No	%	M:F
<50	17	17	10	10	07	07	1.42:1
50-70	52	52	32	32	20	20	1.60:1
>70	31	31	17	17	14	14	1.21:1
Total	100	100	59	59	41	41	1.44:1

assessed in the form of Hemiparesis, Hemiplegia, Monoparesis and Monoplegia. Hemiparesis was seen in 32 patients, Hemiplegia was seen in 40, 8 presented with Monoparesis while 20 had Monoplegia. This corresponded to the findings on CT scan as well.

Hypertension 70% of the total cases (70 out of 100) were Hypertensive, either newly diagnosed (30) or known hypertensive (40). This can be attributed to inadequate awareness about health related issues in our part of the world.[2] Later on 12 patients had continuously a BP in the normal ranges. Among 70 patients, 49 were on antihypertensive treatment either with good (17) or bad 32) compliance. Only 9 among these 49 gave a history of controlled values during antihypertensive therapy.[23]

Diabetes Mellitus 22% (22 out of 100) patients were known diabetic, out of them 15 were taking anti diabetic drugs. 8 more patients were diagnosed as newly diagnosed diabetic.

Dyslipidemia During investigations, 16% (16 out of 100) were confirmed to be suffering from Dyslipidemias.

Smoking 67 patients (67%) had some history of smoking. 31 were current smoking while the rest had left smoking either more than 5 years ago (13) or less than that (23)

Family History 13 out of 100 (13%) patients were found to have some positive history of Spontaneous Intracranial Hemorrhage.

Any Previous History of Such attack or TIA Only 14 of the total 100 (14%) patients had positive previous history of either Spontaneous Intracranial Hemorrhage (3) or TIA (11).

For degree of association of risk factors and various clinical features of intra-cranial hemorrhage see table no;2.

DISCUSSION

With the help of a vigilant History and Examination a strong association between a few clinical features and/or risk factors was found. These clinical features and risk factors are very helpful in differentiating Ischemic Stroke from hemorrhagic stroke.[7, 19]

As evident from studies conducted before, a strong association (45%) between Spontaneous intracranial Hemorrhage and Hypertension was found.[8, 25] But this association was found to be even stronger (70%) in our studies which matches the result (64%) of a study done in india.[9] BP on arrival was not such an accurate indicator because some of the patients went on to have normal BP values after 24-48 hours. However a very high value (stage 3) on arrival was strongly indicative of Spontaneous Intracranial Hemorrhage. Association with DM is comparatively low (22%) which is again in consistence with other studies (25%). Smoking was also another close risk factor but in contrast to a few previous studies, as the one in Australia (25%), the percentage of affiliation in our study (67%) is much stronger.[11]This also depended upon the number of cigarettes smoked per day which is consistent with other studies.[12] Association of male sex was slightly greater and this was very much same as was found in previous studies.[24] While a strong association with Old Age (above 70 years) was also confirmed.[1, 22, 24]

Features that are considered to be classical for Spontaneous intracranial hemorrhage showed a very strong association, with Headache accounted in 77% of cases.[13] While vomiting (24%) and loss of consciousness has a comparatively lesser association (31%) respectively. This when studied in conjunction with the size of hematoma and site of bleed explains the situation very well.[5,14] Patients who had dyslipidemias and got it cured with treatment had a very less number(2%).[15,16] Association with any past history of same event or positive family history had almost negligible importance.

CONCLUSION

Headache, hypertension and smoking have a very close association with this clinical event. For attributing a clinical presentation to Intracranial hemorrhage an in-depth history and clinical examination is very important. This will help in proper evaluation and treatment of patient. Anticoagulant and antithrombotic therapy which is important for both primary and secondary prevention of stroke can prove fatal in case of wrongly diagnosed patients which can be avoided on the basis of recognizing the clinical presentation.[10, 17,19] However to be on safe side one must go through CT scan which is preferable to MRI.[18,21]With a healthy life style, Health education, primary & secondary prophylaxis and proper treatment for some of the above mentioned risk factors we can avoid this fatal event to a significant extent[20,26].

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