Acute Phase Proteins (APPs) in Stroke Patients in a Tertiary Care Hospital

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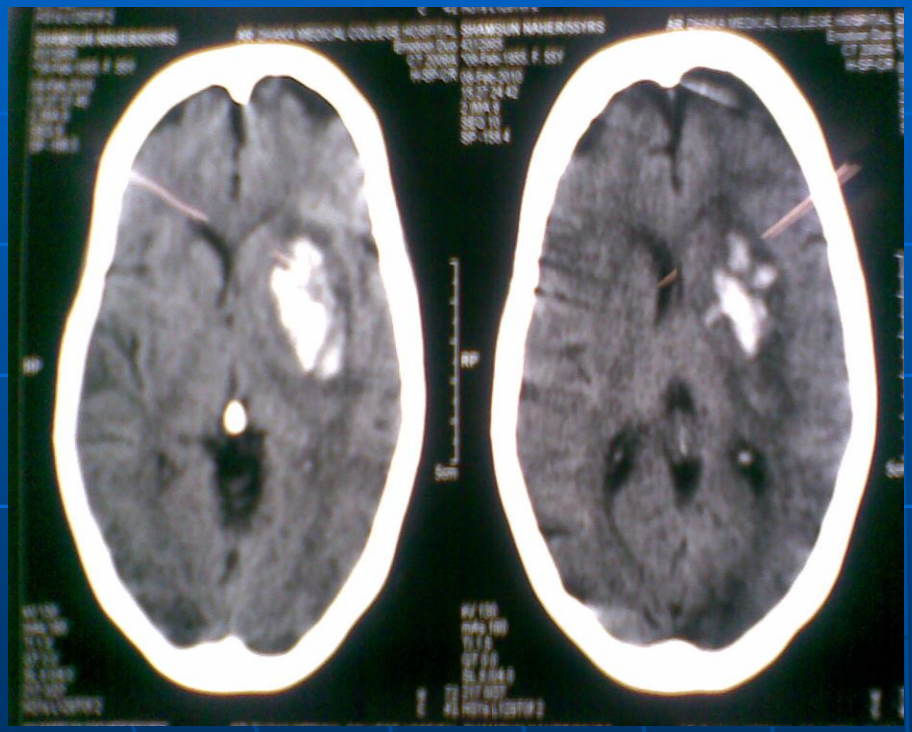
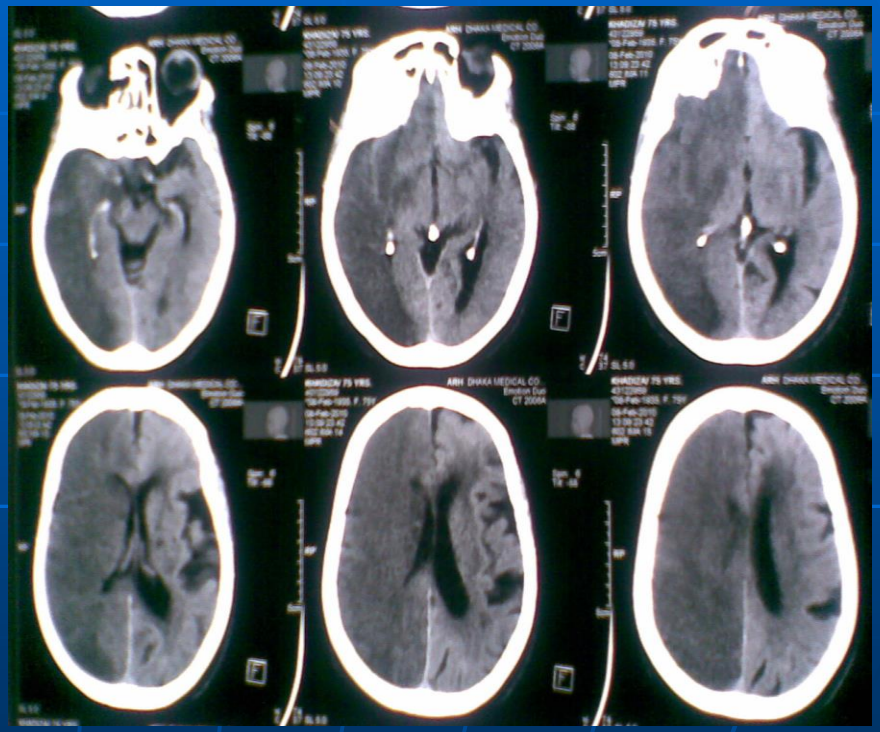
Introduction

- Stroke is the third most common cause of mortality & the first cause of disability.
- Among all stroke , 85% is Ischemic stroke & remaining 15% is hemorrhagic.

Imaging



Haemorrhagic Storke



Ischaemic Storke

Role of APPs in Stroke

- Inflammation plays an important role in the pathophysiology of ischemic stroke.
- In acute phase of CVA, markers of inflammation - fibrinogen, C-reactive protein (CRP) Complements (C3,C4), Tumor necrosis factor (TNF)are useful to predict severity of stroke.
- However, Fibrinogen and CRP are well known APPs which strongly predicts the outcome of stroke.

E. Ufuk et al., Journal of Neurological Sciences [Turkish] **24:(1)**# 10;64-69, 2007

Aim

- The aim of this study is to determine the correlation between acute stroke and the APPs (CRP & ESR).

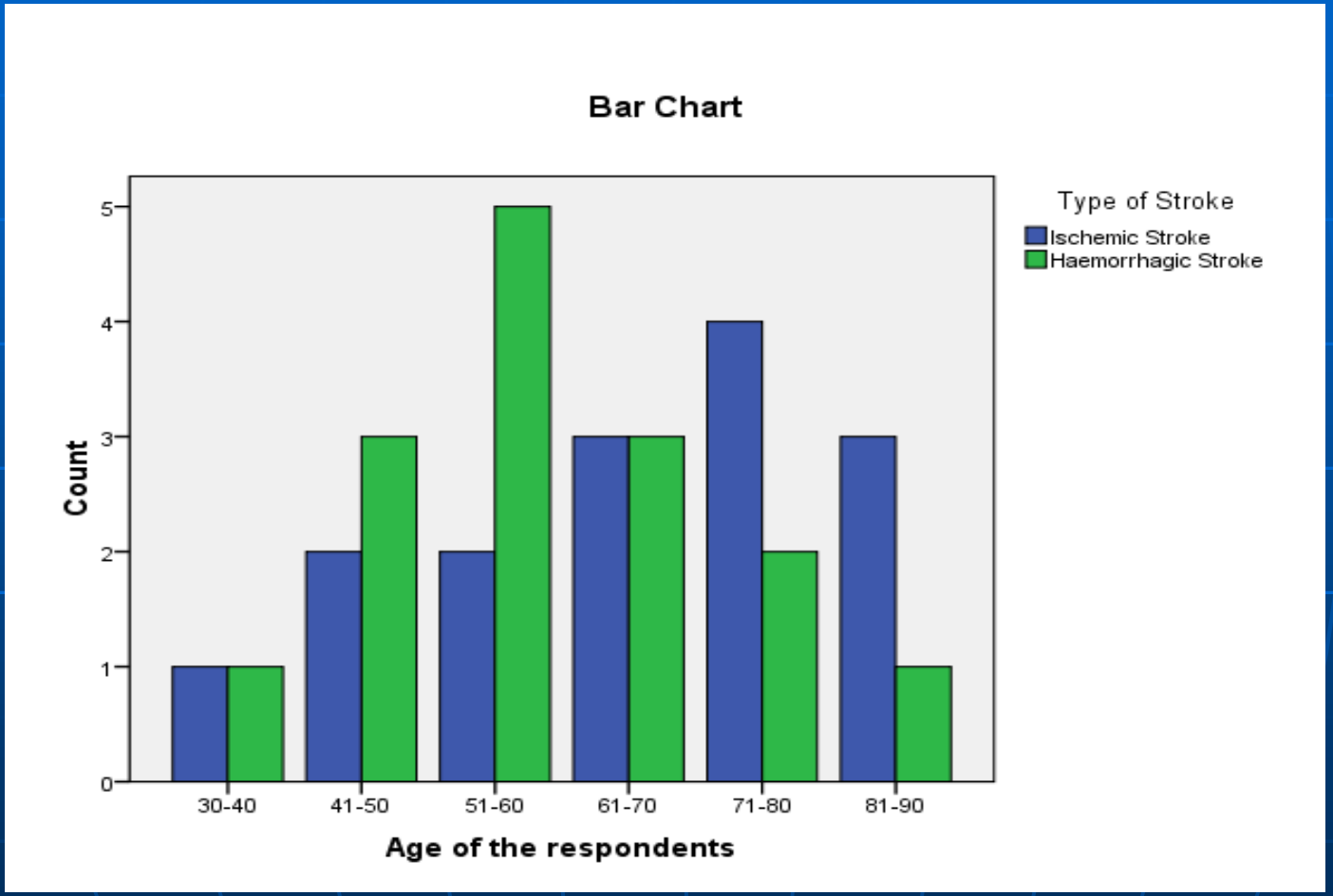
Materials & Methods

- This is a prospective descriptive study.
- Inclusion Criteria:
  - The acute stroke patients admitted in DMCH within 72 hours after the onset of stroke (Clinically and Radiologically).
- Exclusion Criteria:
  - Patients with tumor or inflammatory lesion of brain (Excluded by CT scan of brain)&
  - Co morbid conditions - Infections, Immunological, Malignant disease.

Methods

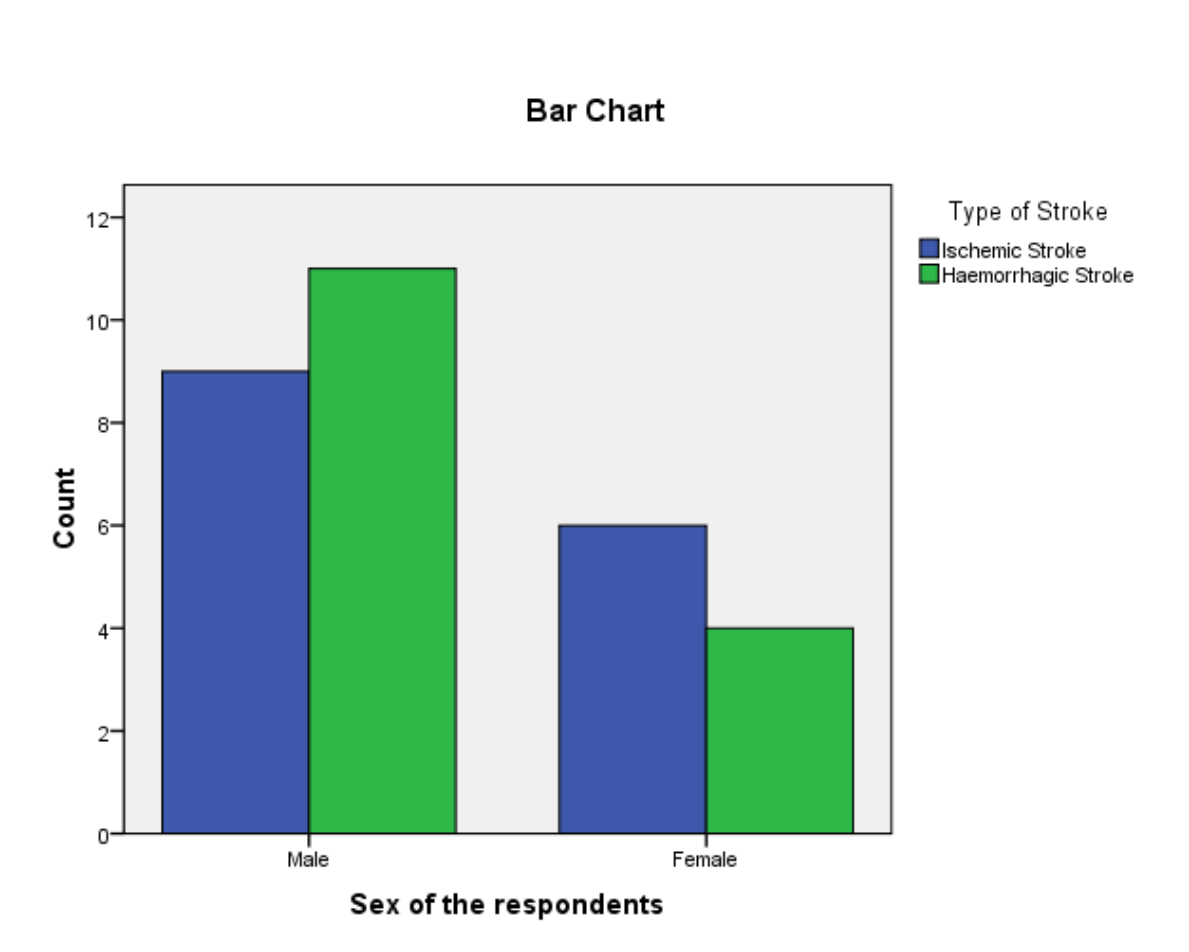
- The study group consists of 30 subjects which includes 20 male and 10 female patients.
- Plasma levels of two APPs (CRP & ESR) were measured within 72 hours after the onset of stroke.

Results: Demography



Percentage of stroke in different age distribution

Result: Demography



Percentage of different types of stroke in Male & Female

Results

Type of stroke (n-30)	CRP (<5mg/l)	CRP (≥5mg/l)	Chi-Square (P value)
Ischemic (n-15)	03	12	0.003
Hemorrhagic (n-15)	11	04	

Results

Type of stroke (n-30)	ESR (<15mm/hr)	ESR (≥15mm/hr)	Chi-Square (P value)
Ischemic (n-15)	02	13	0.020
Hemorrhagic (n-15)	08	07	

Summary

- CRP is a better parameter than ESR in prediction of stroke
- Ischaemic stroke has a more raised CRP than haemorrhagic stroke.
- Acute phase proteins in stroke patients are an important predictor in differentiating between ischaemic stroke and haemorrhagic stroke.

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Thank You All