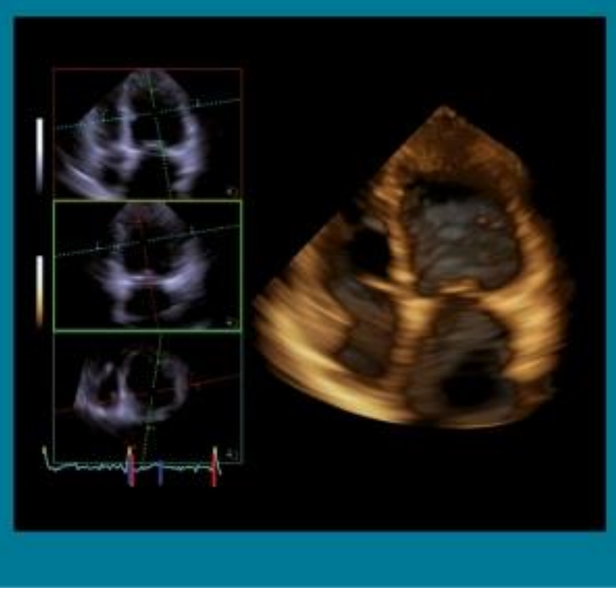

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The Impact of Ethnicity on the Prevalence and Length of Hospital Stay in Patients with Aortic Valve Stenosis

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Background

Aortic valve stenosis (AS) is the most common heart valve lesion in European and American populations with calcific AS present in 2-7% aged >65 years[1]. It can have serious consequences such as increased perioperative morbidity and mortality[2].

Ethnicity may influence the prevalence of AS & its progression[3] but the evidence base is limited in this field. We investigated the prevalence, length of stay (LOS) & its predictors in black & ethnic minority patients with AS in North West (NW) England.

Methods

ACALM study protocol using the ICD-10 & OPCS-4 coding systems to identify patients.

Anonymous data from adult patients with AS admitted to 7 hospitals in NW England 2000-13

Data on the LOS, age, gender, ethnicity, co-morbidities (any of top 8 causes of mortality in UK) & type of admission

Multi-variant logistic regression model analysis performed in SPSS version 20.0

Ethnicity	N (%)	Mean Age (years)	% with co-morbidity	Mean Length of Stay (days)	ODDs ratio for length of stay*
All groups	4564 (100.0)	72	64.7	7.7	-
Caucasian	4053 (88.8)	73	65.2	13.7	1
South Asian	78 (1.7)	56	67.9	8.0	0.982 (0.968– 0.996)#
Afro-Caribbean	16 (0.4)	69	68.8	9.7	0.975 (0.915-1.038)
Oriental	6 (0.1)	68	66.7	14.0	1.010 (0.966-1.056)
Mixed	5 (0.1)	74	60.0	1.3	0.662 (0.331-1.325)
Other	39 (0.9)	69	71.8	12.1	1.003 (0.981-1.025)
Unknown	367 (8.0)	72	58.0	15.1	1.006 (0.999-1.013)

Table 1 – Prevalence & characteristics of admissions for patients with aortic valve stenosis according to ethnic group

*adjusted for age, sex, co-morbidity, # statistically significant, p<0.05

Results

LOS was significantly shorter (p<0.05) in South Asian patients (but not in other ethnic minority groups) compared to Caucasian patients, when adjusted for other variables such as age.

The mean age of South Asian patients with AS was notably lower than those of Caucasian origin (56 v 73 years).

AS is more prevalent in Caucasian admissions than those of ethnic minority origin (Table 1).

Discussion

Shorter LOS in South Asian AS patients is consistent with findings in similar studies[4,5,6]. The reasons are unknown but may be inequalities in healthcare, requiring further studies. Higher rates of AS in the Caucasian compared to ethnic groups may represent higher population frequencies of risk factors e.g. genetic loci[7] but could be due to unequal access to healthcare/ diagnosis (which studies have shown is influenced by age & sex[8] or ethnic origin[9]) affecting apparent prevalence.

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Conclusion

LOS in shorter in South Asian AS patients and there are higher rates of AS in Caucasian Patients. Understanding disparities in prevalence and care is essential in the planning & development of healthcare services amongst AS patients in regions with large multi-ethnic populations .