EPH183

Gender-based Gaps In Access To Tricuspid Valve Interventions In England

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Objective

Tricuspid valve disease affects the valve between the heart's right atrium and right ventricle. Despite a significant increase in the prevalence of tricuspid valve diseases and a documented higher prevalence in women, there has not been a corresponding rise in treatment interventions. This retrospective database analysis aims to explore gender differences in the care of patients with tricuspid valve diseases in England.

Methods

We retrospectively identified adults over 55 years who underwent tricuspid valve interventions from the English Hospital Episode Statistics (HES) database between September 2019 and August 2024. The interventions were categorized using 12 different Office of Population Censuses and Surveys (OPCS) codes, including tricuspid replacement, repair, repositioning, valvotomy, valvectomy, and annuloplasty. The cohort was analyzed for i) all-cause hospitalization and ii) circulatory system disease-related hospitalization prior to the index treatment, all categorized by age and gender. The percentage of patients and number of Patients per million (PPM) treated for TR was compared to the general population in England[1].

Figure 1: Number of Patient treated for TR

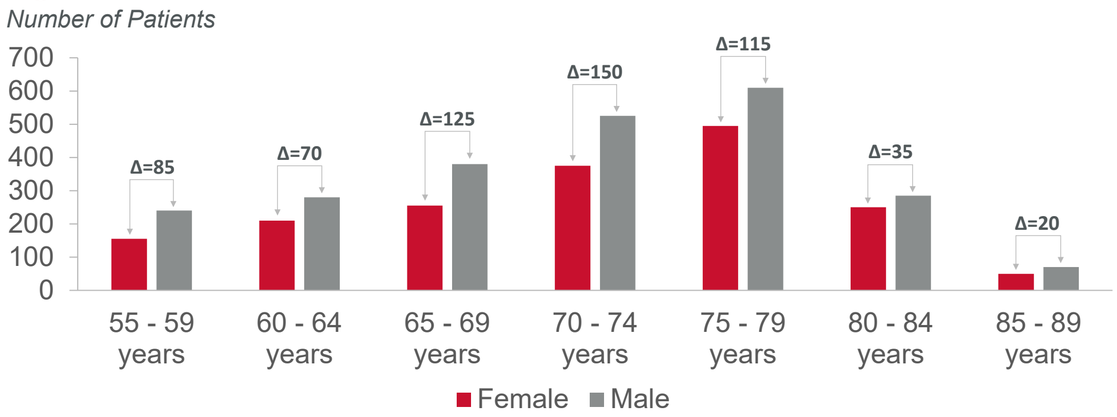

Figure 2: Patients per Million treated for TR by Gender

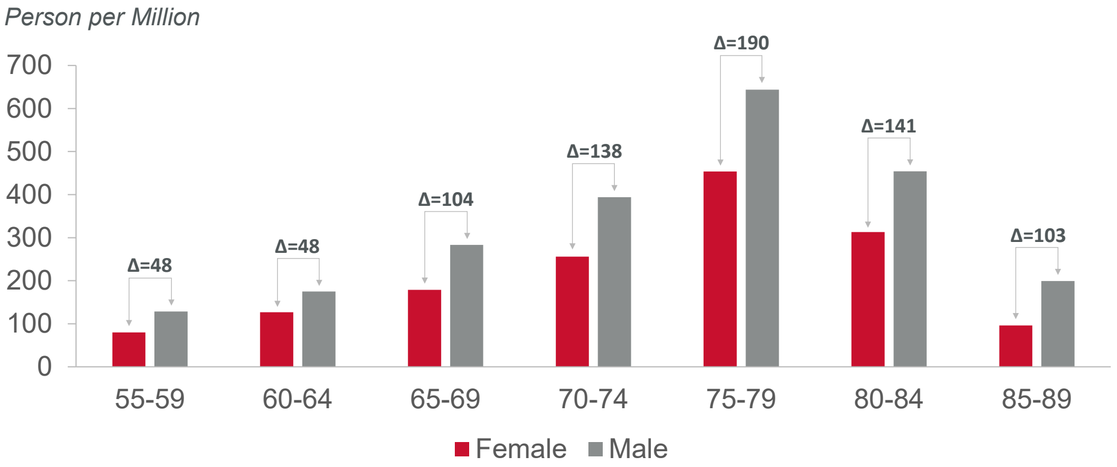

Table 1: Number of circulatory system disease-related hospitalisation before index treatment

Admission	55 - 59 years		60 - 64 years		65 - 69 years		70 - 74 years		75 - 79 years		80 - 84 years	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Multiple valve diseases (I08)	60	65	90	80	120	155	210	235	280	295	130	155
Nonrheumatic mitral valve disorders (I34)	20	90	60	120	75	170	135	220	140	230	55	100
Chronic ischaemic heart disease (I25)	15	40	30	55	35	105	55	180	105	200	45	90
Atrial fibrillation and flutter (I48)	55	45	85	75	90	90	160	100	140	120	55	45
Heart failure (I50)	55	55	45	90	60	105	85	105	115	110	45	50

Results

Over a 66-month period, a total of 4,295 patients aged 55 and older underwent interventions for tricuspid valve disease. Out of these, 4,180 patients, encompassing both male and female up to the age of 89, were analyzed to assess gender differences. It was found that 57% of those treated were male, while 43% were female. The highest number of cases occurred in the 75-79 age group, reaching 1,105, with female comprising 45% of this group (Figure 1). We also examined the frequency of all-cause and circulatory system disease-related hospital admissions before index (Figure 3 and Table 1). The most common primary diagnoses before index associated with circulatory system disorders (ICD10) included multiple valve diseases (I08), non-rheumatic mitral valve disorder (I34), chronic ischemic heart diseases (I25), atrial fibrillation and flutter (I48), as well as heart failure (I50), which supported the observation of a higher hospitalization rate among male compared to female (see Table 1). The PPM and percentage of female treated is lower compared with male in all age groups (Figure 2 and Table 2).

Figure 3: Number of all-cause hospitalisation before index treatment

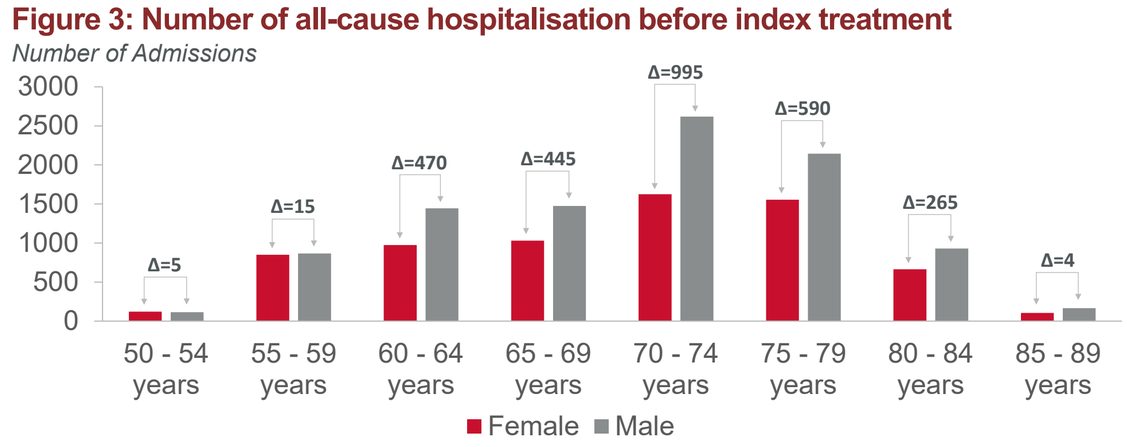

Table 2: Percentage of patients treated for TR compared to general population of England by Gender and Age

	England Population	Treated	F%	Per Million	England Population	Treated	M%	per Million	M%/F%*
Age (Years)	Female				Male				
55-59	1,936,704	155	0.008%	80	1,869,665	240	0.013%	128	1.60
60-64	1,654,037	210	0.013%	127	1,601,961	280	0.017%	175	1.38
65-69	1,425,574	255	0.018%	179	1,341,922	380	0.028%	283	1.58
70-74	1,464,883	375	0.026%	256	1,331,767	525	0.039%	394	1.54
75-79	1,091,527	495	0.045%	453	947,250	610	0.064%	644	1.42
80-84	798,544	250	0.031%	313	627,539	285	0.045%	454	1.45
85-89	520,907	50	0.010%	96	351,581	70	0.020%	199	2.07
Total	8,892,176	1790	0.020%	201	8,071,685	2390	0.030%	296	1.47

*Calculated as % of Male divided by % of Female

Conclusion

- We observed women were less treated among patients receiving tricuspid valve interventions even after adjustment for general population age group.
- Existing epidemiology research of the tricuspid valve diseases shows that women are almost four times more likely to suffer from tricuspid valve disorder after age 70 than men[2].
- The true gap in gender inequalities to access TR treatments should be further explored combining information about patients diagnosed and treated.

1) United Kingdom Census (2021). https://www.ons.gov.uk/datasets/create. Retrieved 26 March 2025.

2) Prevalence and clinical determinants of mitral, tricuspid, and aortic regurgitation (the Framingham Heart Study) Singh, Jagmeet P et al. American Journal of Cardiology, Volume 83, Issue 6, 897 - 902

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