THE INCIDENCE OF VARICOSE VEINS IN SINGAPORE (A STUDY IN THREE OCCUPATIONAL GROUPS)

By Rajmohan Nambiar, F.R.C.S.E.
(Unit of The Senior Surgeon, General Hospital, Singapore)

Varicose veins are not strictly an occupational disease. In Western people in whom this condition is highly prevalent it has attained both national and industrial importance. In Europe the disability from varicose veins has caused more invalidism than automobile accidents. (Bauer 1950). In the U.S.A. Curwen and Scott (1952) have drawn attention to the the magnitude of the problem and the loss of many man hours in industry.

Statistical surveys on the incidence of varicose veins are extremely variable. DeTakats in U.S.A. (1930) found the incidence in industrial workers to be 10%. This in healthy young people is considered to be a high figure. Meisen (1937) in a group of conscripts in Denmark found it to be 17%. Dodd & Cockett (1956) in their monograph on the subject quoted 1in 5 women and 1in 15 men over the age of 45 suffering from it in U.K. Rowden Foote (1960) stated a higher figure of 1in 3 women between 45 and 50 years.

It is believed that varicose veins occur much less in Negroes, Indians, Chinese and Mexicans. There has been no previous statistical study to support this in the literature. It is also the impression amongst surgeons that varicose veins and its complications are less common in the surgical work in Singapore.

In the General Hospital, Singapore, during the 10 year period between 1957 and 1967 the number of cases of all causes treated was 416,755. During the same period the number of varicose veins treated was only 564. This gives a ratio of 1 or 2 per thousand. It may be argued that an ordinary labourer is not worried by either the cosmetic effect or the relatively minor symptoms of varicose veins and would not have attended hospital for treatment. But it is obvious that the above figure is a low one even taking into account the complications of varices which would have necessitated admission to hospital.

OCCUPATIONAL ANALYSIS OF VARICOSE VEIN CASES

In the Unit of the Senior Surgeon, General Hospital an analysis of occupations in 85 male patients suffering from varicose veins is as follows:

(a) MAINLY STANDING AND WALKING OCCUPATIONS (57 cases)

Labourers	25
Coffee shop Assistants	10
Sales assistants and Waiters	7
Hawkers	8
Watchmen	3
Barbers	2
Policemen	2

(b) MAINLY SITTING OCCUPATIONS (28 cases)

Mechanics	10
Clerks and Accountants	8
Store Keepers	4
Trishaw riders	2
Taxi drivers	2
Tailors	2

It may be noted that the occupation in 67% of cases involved mainly standing and walking.

TABLE I

HOSPITAL CASES

	General Hospital, Singapore: Varicose veins									
Type of Cases	**1957**	**1958**	**1959**	**1960**	**1961**	**1962**	**1963**	**1964**	**1965**	**1966**
Cases of varicose veins treated	55	56	50	43	43	52	49	63	72	82
Total cases of all causes treated	34606	36851	40924	41805	42097	45625	47816	43851	39686	43494

INCIDENCE OF VARICOSE VEINS IN OCCUPATIONAL GROUPS

I have investigated the incidence of varicose veins in three occupational groups of people. Their occupation involves their being on their feet all day and therefore would be expected to have the maximum incidence of varicose veins in the community. The groups are as follows:

1. Barbers - mainly standing.
2. Trishaw riders - mainly sitting and exercising.
3. Nursing staff - mainly standing and walking.

1. Incidence in Barbers:

80 Indian barbers (all males) were interviewed. Their ages varied between 30 and 60 years and they had worked for a period between 15 and 30 years. Although most of them worked from 8 a.m. to 8 p.m. for six days a week, the actual hours of standing during work was about 6-8 hours a day. Out of 80 barbers only 4 of them had varices. This gives the incidence of 5%.

2. Incidence in Trishaw riders:

There are over 2000 registered trishaw riders in Singapore. The majority of them are over 50 years of age and have been working for over 20 years. With the increase in automobiles after the war, their profession is on the decline and less and less people have taken up this career. Many of the older people believe that varices are caused due to bathing their legs in cold water after the legs have been hot all day at work.

Be it as it may, varicose veins were noted in 32 out of 360 trishaw riders. This gives an overall incidence of 9%. While stating this as the incidence, the possibility of some of them having discontinued or changed their job because of complication and incapacitation should be borne in mind. It was noted that there was a rise in the incidence of varicose veins with increasing age, reaching 14·3% for those over 60 years.

3. Incidence in Nursing staff:

The survey was conducted by a questionaire circulated among the senior staff which included the sister tutors, nursing sisters and charge nurses. The senior staff were chosen as they would have had at least 5-7 years during and after training. Out of 150 nurses 25 were males and 125 females. The overall incidence was 8%. In males it was 4% and in females 8·8%. The incidence in unmarried women was 5%. In married women who had borne children the incidence was 12·3%.

DISCUSSION

It is generally believed that in occupations involving prolonged standing and walking the rise in venous pressure in the legs for a long period of time aggravates any inherent tendency to varicoses. An analysis of occupations in varicose vein patients has shown that the incidence was greater (67%) in people whose occupation involved prolonged standing and walking. This is similar to the study by De-Takats and Quint (1930) who noted that prolonged standing was present in 65% of their cases. In 1942 Lake, Pratt and Wright investigated 536 persons who have been standing, walking or climbing for ten years or more and found the overall incidence of 73% for persons over 60 years of age; 40·7% in men and 73·3% in women. Women over 40 had a higher incidence than men of the same age and this difference was present even when the pregnancy factor was removed. In their series men who climbed stairs had the lowest incidence. Women who stood or walked had a higher incidence than those who sat at work.

The incidence locally of this condition in Barbers, Trishaw riders and Nursing staff are 5%, 9% and 8% respectively. The incidence in married nurses with children was two and half times more than male nurses and unmarried women. Among trishaw riders an increase in incidence was noted with increase in age.

TABLE II

SUMMARY OF INCIDENCE IN OCCUPATIONAL GROUPS

Occupational groups	No. of people investigated	No. of cases of varices	Percentage
Barbers	80	4	5
Trishaw riders	360	32	9
Nursing staff	150	12	8

CONCLUSIONS

A study of the incidence of varicose veins in occupational groups in Singapore has confirmed the general impression that varicose veins are very much less prevalent amongst Asians, compared to the Europeans. The analysis of occupations in varicose vein cases has shown that the incidence in occupations which involved prolonged standing and walking was twice that of the sedentary jobs. The incidence of this condition in lor 2 per thousand hospital cases treated, has obviously little industrial significance.

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REFERENCES

1. Bauer, G., (1950): Angiology. Vol. 1., 229.
2. Curwen, I.H.M., & Scott, B.O. (1952): Ann. Phys. Med. Lond., 1, 17.
3. DeTakats, G. & Quint, H. (1930): Surg. Gynec. Obstet. 50, 545.
4. Dodd, H., & Cockett, F.B. (1956): "The Pathology and surgery of the veins of the lower leg", E. & S. Livingstone Ltd., Edin. & London.
5. Foote, R.R., (1960): "Varicose veins". Bristol John Wright & Sons Ltd.
6. Lake, M., Pratt, G.H., & Wright, I.S. (1942): J.A.M.A.