

Original article:

A comparative study of cardiovascular autonomic function in tribal and non tribal people

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ABSTRACT

Introduction: The state of assam has a number of racial and ethnic group with their own specific culture and tradition. The tribes of assam display high degree of ethnic diversity in their racial composition and distribution. Due to greater exposure to social stress and less access to health facilities, and dietary habit of different ethnic group has resulted in accelerated dysregulation of physiological system

Aim of study-To establish any difference in autonomic function in tribal non tribal people

Materials and method: In the present study autonomic function test were done on 100 cases among staff Members of Gauhati Medical College . For parasympathetic function the following test were performed

Statistical analysis : was done by standard t test

Conclusion-The present study shows that valsalva ratio is significantly decrease in tribal group in comparison to the non tribal group p value less than <.5.

Introduction-

Ethnic disparities in cardiovascular morbidity and mortality are well documented in the literature. Racial and social difference in cardiovascular outcome may be related to high life style factors and central obesity. Recent studies shows that decreased parasympathetic modulation is associated with the emerging risk factor for cardiovascular disease. Due to greater exposure to social stress, less access to health facilities, dietary habits of different ethnic groups there is imbalance in cardiovascular autonomic function. The various tribes of assam thebodos, rabhas, missing, dimasas, thengal, sonowal Kacharis are predominantly of mongoloid race. The non tribal population include Brahmins, Kalitas, Bengali, Bihari, Marwaris . Both cross sectional and longitudinal study suggest autonomic imbalance in the Altered or dysregulated autonomic nervous system has increased CVD risk factor such as hypertension, diabetes, stroke. Both cross sectional and longitudinal study suggest autonomic imbalance in the direction of high sympathetic activity and relatively low parasympathetic activity . Critically the mechanisms underlying ethnic disparities in cardiovascular risk are currently not well understood. Data from several studies suggest that African American exhibit higher tonic HRV compared to European American .

Synthesized literature suggest that African American show higher resting HRV compared to European American .one of the potential source is genetic contribution to HRV using behavioral genetics

As there only a few studies on cardiovascular autonomic in different ethnic groups with the following aim the study was undertaken to establish any difference in autonomic function in tribal and non tribal group

Materials and methods:

In the present study cardiovascular autonomic function test were done on 100 cases among medical students and staff members in the age group 18-35yrs of Guwahati medical college

CRITERIA FOR SELECTION OF CASES

While selecting the cases only those cases were taken who are free from systemic disease.

The different ethnic groups of all 100 cases were determined

ETHNIC GROUP-is defined by similar genetic inheritance and identifiable trait that holds true for most of their members.they also have same social character,have

same language,culture and group spirit

FOR PARASYMPATHETIC FUNCTION

The following test were performed

1.Deep breadth test

2.Valsalva test

FOR SYMPATHETIC FUNCTION

1.Orthostatic hypotension test

2.Hand grip test

All the 100 cases were divided according to ethnic group

In this study mean,standard deviation and standard error of all the parameters were compared by student t test and the results were displaced in the tabular form

Results:

TABLE 1 Showing cardiovascular autonomic function of tribal groups

TEST	MEAN	SD	SE
VALSALVA TEST	1.51	.051	.012
DEEP BREADTH TEST	19.3	4.19	.98
ORTHOSTATIC TEST	8.58	2.62	.61
HAND GRIP TEST	18.8	3.83	.903

TABLE 2. Cardiovascular autonomic function of non tribal people

TEST	MEAN	SD	SE
VALSALVA TEST	1.51	.051	.012
DEEP BREADTH TEST	19.3	4.19	.98
ORTHOSTATIC TEST	8.58	2.62	.61
HAND GRIP TEST	18.8	3.83	.903

TABLE3. SHOWING COMPARISION OF TRIBAL GROUP AND NON TRIBAL GROUP

TEST	MEAN±SD	MEAN±SD	P'VALUE'
VALSALVA TEST	1.47±.083	1.51±.05	<.05
DEEP BREADTH TEST	20.22±4.38	19.3±3.91	>.05
ORTHOSTATIC TEST	9.07±2.11	8.58±2.62	>.05
HAND GRIP TEST	18±3.17	18.88±3.83	<.05

VALSALVA TEST

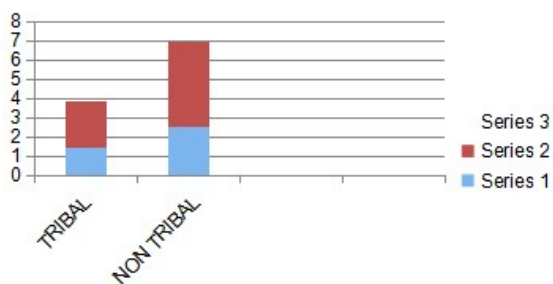


FIG 2-COMPARISION OF VALSALVA TEST IN TRIBAL AND NON TRIBAL PEOPLE

HAND GRIP TEST

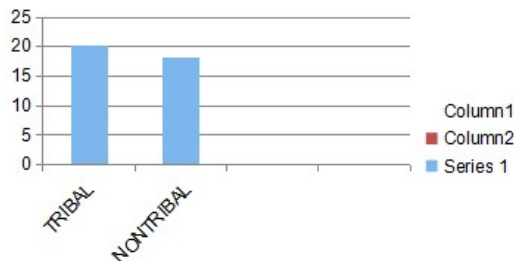


FIG 3-COMPARISION OF HANDGRIP TEST IN TRIBAL AND NONTRIBAL PEOPLE

Discussion

The hand grip test in the tribal group was significantly increased in Comparison to non tribal group Study done by Andrew Gardenitti in 2003 proved that autonomic function varied in different ethnic groups.Hawains have higher heart disease and stroke mortality . Than Asians and caucasoids.DF KHAN in his study in 2003 found that there is higher prevelance of cardiovascular disease in black and white people . Health disparities exist and in African American and white American.Racial differences in cardiac autonomic control is an indicator of parasympathetic or vagal modulation of the heart . Thus differential exposure to social and environmental stress,poor access to health care facilities is well documented in white and black in mortality due to heart diseaseso from our present study it was seen that parasympathetic activity was reducedand sympathetic activity was increased in tribal people in comparision to nontribal people.It may be attributed to climatic factor,environmental and socialstress,dietary habbits,less access to health care facilities of different ethnic group.

Conclusion

The variation of cardiovascular autonomic function was established.The valsalvaRatio was significantly reduced in tribal group.Pvalue <.05.On the otherhand sympathetic activity was increased significantly.Ethnic Differences in baroreceptor reflex sensivity may account for some portion. Observed between the two group variation in cardiovascular autonomic function.Further research is required in this field to prevent cardiovascular. Diseases resulting from autonomic dysfunction

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