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Research Article

ASSAMESE POPULATION: A MORPHOMETRIC STUDY ON HUMAN CADAVERIC PANCREAS

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ABSTRACT

This study presents a comprehensive morphometric analysis of the human cadaveric pancreas in the Assamese population. The pancreas is a vital organ involved in digestion and glucose regulation, and its morphological variations can have significant clinical implications. However, limited information exists regarding the specific characteristics of the pancreas in the Assamese population. To address this knowledge gap, we conducted a detailed examination of pancreas specimens obtained from cadavers of individuals from the Assamese population. Morphometric measurements, including length, width, and thickness of the pancreas, as well as the dimensions of its various lobes, were recorded. The data obtained were statistically analyzed to determine any significant differences or similarities compared to other populations. The findings of this study contribute to a better understanding of the morphological variations of the pancreas in the Assamese population and may have implications for clinical practice and surgical interventions in this region.

KEYWORDS

Assamese population, pancreas, cadaveric study, morphometry, morphological variations, clinical implications.

INTRODUCTION

The pancreas is a vital organ located in the abdominal cavity, involved in both endocrine and exocrine functions. It plays a crucial role in digestion through the

secretion of pancreatic enzymes and hormones such as insulin and glucagon, which regulate glucose metabolism. The morphology of the pancreas can

exhibit considerable variations among individuals, and these variations have implications for various pathological conditions and surgical interventions. Understanding the morphological characteristics of the pancreas in specific populations is essential for accurate diagnosis, treatment, and surgical planning. However, limited research has been conducted on the morphometry of the pancreas in the Assamese population, which represents a distinct ethnic group residing in the northeastern region of India. This study aims to bridge this knowledge gap by conducting a comprehensive morphometric analysis of the human cadaveric pancreas in the Assamese population.

METHODS

This morphometric study was conducted using human cadaveric specimens obtained from the Anatomy Department of a medical college in Assam, India. The study was carried out after obtaining ethical clearance from the institutional review board. A total of [number] pancreas specimens were collected from [number] cadavers representing the Assamese population.

The cadaveric specimens were carefully dissected to expose the pancreas while preserving its anatomical integrity. Morphometric measurements were taken using a digital vernier caliper. The following parameters were measured:

Pancreas length: The distance between the head and the tail of the pancreas was measured.

Pancreas width: The maximum transverse distance of the pancreas was recorded.

Pancreas thickness: The thickness of the pancreas was measured at its thickest point.

Lobe dimensions: The dimensions of individual lobes, including the head, body, and tail, were measured in terms of length, width, and thickness.

All measurements were performed by trained researchers to ensure consistency and accuracy. The data obtained were recorded in a standardized format and analyzed using statistical software. Descriptive statistics such as mean, standard deviation, and range were calculated for each parameter. Additionally, statistical tests such as t-tests or analysis of variance (ANOVA) were conducted to compare the morphometric measurements between genders and other relevant demographic factors. The significance level was set at $p < 0.05$.

The findings of this study will provide valuable insights into the morphological variations of the pancreas in the Assamese population and contribute to a better understanding of its anatomical characteristics in this specific ethnic group.

RESULTS

The morphometric analysis of the human cadaveric pancreas in the Assamese population yielded the following measurements: the mean length of the pancreas was [X] cm with a standard deviation of [X] cm, the mean width was [X] cm with a standard deviation of [X] cm, and the mean thickness was [X] cm with a standard deviation of [X] cm.

The dimensions of the individual lobes of the pancreas were also recorded. The mean length of the head lobe was [X] cm, the mean width was [X] cm, and the mean thickness was [X] cm. The body lobe had a mean length of [X] cm, a mean width of [X] cm, and a mean thickness of [X] cm. Lastly, the mean length of the tail lobe was [X] cm, the mean width was [X] cm, and the mean thickness was [X] cm.

DISCUSSION

The morphometric measurements obtained in this study provide valuable insights into the morphological characteristics of the pancreas in the Assamese population. A comparison of these measurements with existing data from other populations can help identify any significant differences or similarities.

When comparing the morphometric measurements of the pancreas in the Assamese population with data from other ethnic groups, it was observed that [specific findings]. These variations may have implications for surgical interventions and clinical management in Assamese individuals, as certain anatomical features may affect the feasibility and success of surgical procedures involving the pancreas.

The variations in pancreas dimensions within the Assamese population, such as differences in length, width, and thickness, may also have implications for the development and progression of pancreatic diseases. For example, studies have suggested that variations in pancreas size and shape may influence the risk of developing pancreatic cancer or pancreatic ductal abnormalities. Therefore, understanding the morphometric characteristics specific to the Assamese population can aid in the early detection and management of such conditions.

CONCLUSION

In conclusion, this morphometric study provides valuable information on the dimensions and variations of the human cadaveric pancreas in the Assamese population. The findings contribute to a better understanding of the anatomical characteristics of the pancreas in this specific ethnic group, which can have implications for clinical practice, surgical interventions, and the diagnosis of pancreatic diseases. The data

obtained in this study serve as a foundation for further research and can assist healthcare professionals in delivering more accurate and tailored care to individuals of the Assamese population.

REFERENCES

1. Barley N.R. and Healy, J.C.(2008). The Pancreas, Abdomen and Pelvis, Gray's Anatomy. 40th Ed. Churchill Livingstone, Elsevier, 1183-90.
2. McMinn RMH, Rose PG, Hutchings RT, Logan BM. (1995).Pancreas. McMinn's Functional and Clinical Anatomy Mosby, 277-9.
3. Glass J, Mundy AR.(2005). Abdomen and pelvis. In: Standring S, Ellis H, Healy JC, et al. eds. Gray's anatomy: the anatomical basis of clinical practice. 39th ed. Edinburgh: Elsevier Churchill Livingstone.
4. Kumar V, Abbas AK, Fausto N,(2004). eds. Robbins and Cotran pathologic basis of disease. 7th ed. New Delhi: Saunders.
5. Mescher AL.(2010). Junqueira's basic histology: text and atlas. 12th ed. Baltimore: McGraw-Hill.
6. Kreef L, Sandin B.(1973). Changes in pancreatic morphology associated with ageing. Gut;14:962-70. <http://dx.doi.org/10.1136/gut.14.12.962>
7. Burghen GA, Murrell LR(1989). Factors influencing isolation of islets of Langerhans. Diabetes;38:129-32. <http://dx.doi.org/10.2337/diab.38.1.S129>
8. Robertson RP.(2004). Islet transplantation as a treatment for diabetics- a work in progress. New Engl J Med;350:694-705. <http://dx.doi.org/10.1056/NEJMra032425>
9. Yeo ZX, Zhou DS(2004). In vitro cultivation of human fetal pancreatic ductal stem cells and their differentiation into insulin-producing cells. World J Gastroenterol;10:1452-6.
10. Gepts W.(1981). Islet changes in human diabetes. In: Cooperstein SJ, Watkins D, eds. The islets of Langerhans. New York: Academic Press.