Int. J. Morphol.,
43(6):2062-2069, 2025.

Brachial Plexus Variability in Selected South Africans: Laterality and Sex-Related Variations

Variabilidad del Plexo Braquial en Sudafricanos Seleccionados: Lateralidad y Variaciones Relacionadas con el Sexo

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MILANES-RODRIGUEZ, G.; OLOJEDE, S. O. & MAQOKOLO, A. Brachial plexus variability in selected South Africans: Laterality and sex-related variations. *Int. J. Morphol., 43(6)*:2062-2069, 2025.

SUMMARY: This study investigated the variations of Brachial plexus in relation to sex and laterality among selected South Africa population. Sixteen embalmed bodies were dissected bilaterally, and the variations in the formation of BP regarding sex and laterality were documented. 16 BP of equal sex shows variations while 16 BP exhibits classical pattern in the formation of BP accounting for 50 % each in this study. Bilateral union of superior trunk (ST) and middle trunk (MT) in female and incomplete formation of ST and MT on right side in male cadaver were noticed. Posterior cord (PC) was formed by the posterior division of the common trunk (CT) formed by C5, C6 and C7 roots in female (bilateral) and male (right side). Also, on the right side of a male cadaver, three anterior divisions from all the trunks collectively formed a lateral cord (LC). Moreover, LC loops around the second part of axillary artery from lateral to posteromedial in male cadaver on right side. In addition, LC gives a branch that joins anterior division of MT to form the lateral root of median nerve (MN) on left side in female cadaver. This finding shows that most of variations of BP in female are usually bilateral and on left side while variations in male are usually unilateral and on the right side in study population. This study suggests that variations of BP regarding sex and laterality exists, and adequate knowledge is required for proper diagnosis and surgical intervention in upper limb.

KEY WORDS: Brachial plexus; Anatomical variations; Sex, laterality; Cadaveric study.

INTRODUCTION

Brachial plexus (BP) is a complex network of nerves responsible for innervating the upper limb (Feigl *et al*., 2020). It is formed through the convergence of the anterior rami (roots) of spinal nerves from C5 to T1 (Polcaro *et al*., 2023). The brachial plexus is organized into five distinct components: roots (C5 to C8 and T1), trunks (superior, middle, and inferior trunk), divisions (anterior and posterior), cords (lateral, medial, posterior cord), and terminal branches (Musculocutaneous, Axillary, Median, Radial, and Ulnar nerve branches) (Gilcrease-Garcia *et al*., 2020, Leijnse *et al*., 2020).

The Figure 1 depicts the formation of the normal Brachial Plexus, from roots to branches (Leijnse *et al*., 2020).

Due to its intricate anatomical and physiological features, the brachial plexus is susceptible to injury. Some of the potential injuries associated with the brachial plexus include stretch injuries, compression or entrapment, trauma, birth injuries, and neurological disorders (Gilcrease-Garcia *et al*., 2020). The estimated incidence of brachial plexus injury is approximately 1-2 cases per 1000 live births, with a higher occurrence in males compared to females (Abzug *et al*., 2019). Notably, brachial plexus variations exhibit close associations with crucial anatomical structures such as blood vessels (arteries and veins) and muscles, imparting significant clinical and surgical importance. Furthermore, variations within the brachial plexus are often asymptomatic and are typically only identified during surgical procedures, post-mortem examinations, or cadaver dissections (Patel & Smith, 2023). These BP variations may result from anomalies during the development of trunks, cords, and divisions (Leijnse *et al*., 2020). One of the most prevalent variations encountered in BP pertains to the branches of the median and musculocutaneous nerves (Kubwimana *et al*., 2022). These variations in BP call for careful attention while performing procedures such as trauma repair, neoplasm removal, and BP nerve block in the axilla (Budhiraja *et al*., 2012).

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Received: 2025-06-02 Accepted: 2025-10-27

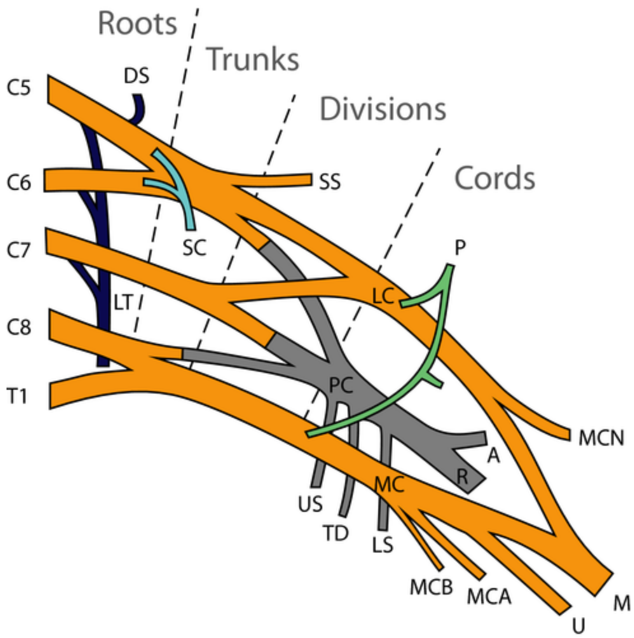

Fig. 1. Brachial plexus (Leijnse *et al*., 2020). DS=Dorsal scapular nerve; LT=Long thoracic; SC=Subclavius nerve; SS=Suprascapular nerve; LC=Lateral cord; PC=Posterior cord; MC=Medial cord; US=Upper subscapularis nerve; TD=Thoraco dorsal nerve; LS=Lower subscapularis nerve; A=Axillary nerve; R=Radial nerve; MCB=Medial cutaneous nerve of Brachium; MCA=Medial cutaneous nerve of antebrachium; U=Ulna nerve; M=Median nerve; MCN=Musculocutaneous nerve.

The brachial plexus blockade stands out as a recurrent concern in discussions on the variations between the male and female BP. A significant challenge in achieving successful BP blocks is undoubtedly the anatomical variability inherent within individuals. BP exhibits considerable diversity in nerve branching patterns, depth, and location, making it difficult to consistently target specific nerves and this influences the conduct and outcome of regional anesthesia (Feigl *et al*., 2020).

While ample of studies have delved into BP variations in countries such as Rwanda, Japan, Turkey, and India (Chaudhary *et al*., 2012; Sinha *et al*., 2012; Kimura *et al*., 2020; Kubwimana *et al*., 2022). However, there exists a notable gap in knowledge concerning sexual dimorphism and laterality of BP in South African Population. This study aims to address this gap by thoroughly exploring brachial plexus variations specific to South Africa.

MATERIAL AND METHOD

Ethical clearance. The ethical clearance for this study was sought and obtained from the Human Research Ethics Committee (HREC) of Walter Sisulu University (WSU) with approval number: HREC 018/2025

Informed consent. The Head of Division of Human Anatomy, Walter Sisulu University gave permission and consent for the use of donated and procured cadavers.

Materials. The instruments that were used for the dissection of the cadavers include dissecting scissors like a scalpel and removable blade, tweezers, dissection forceps, needles, pins, and dissection fluids.

Specimens. Sixteen (32 BPs) well embalmed cadavers consisting of eight male and eight females sourced from the dissection of the dision of anatomy, Walter Sisulu University were used for this study. The images of the specimens were taken, and a qualitative description of the male and female brachial plexus variations was observed.

The Dissection Protocol. The cadavers were dissected, and a blunt dissection were performed to clean the neck and axilla regions to see the components of the BP in accordance with the Grant's Dissector Manual of Practical Anatomy 17th edition (Detton, 2020). The variations were observed in all the topographical regions of the BP. The cadavers were vacuum sealed in plastic bags and kept at 4 degrees Celsius.

Inclusion and Exclusion Criteria. Cadavers of varying ages and genders were included in the study, all of whom were registered and possessed intact upper limbs. Cadavers with neuromuscular disorders such as tumors around the neck and the axillary region were excluded.

RESULTS

Characteristics of the cadavers. In this investigation, sixteen cadavers (32 brachial plexuses) of equal sexes, 8 males and 8 females were used as shown in Table I below.

Table I. The characteristics of the brachial plexus. This table describes the number of cadavers, the number of brachial plexus about sex and laterality and their percentages.

Sex	Number of Cadavers	Number of Brachial plexuses	Percentages (%)
Male	8	16	50
Female	8	16	50
Total	16	32	100

Description of the variations at the level of the trunks and cords

In a female cadaver bilaterally the superior and the middle trunks joined together forming a common trunk instead of remaining separately as happens in the regular pattern of the BP in Table II below. In the same specimen, a variation in the formation of cords was also found. The posterior cord originates only from the posterior division of the common

Table II. The prevalence of brachial plexus variations at the level of the trunk, cord and branches in males and females.

Variations	**Sex**	**Percentage**	**Laterality**
Classical pattern in the formation of the BP	4 Females and 4 Males	16/32	Both sides (Bilateral)
Union of ST and MT forming a common trunk (CT)	Female	2/32	Both sides (Bilateral)
Incomplete fusion of ST and MT	Male	1/32	Right side (Unilateral)
LC loops around the second part of the axillary artery and moves from lateral to posteromedial.	Male	1/32	Right side (unilateral)
LC is formed by the anterior division of the superior trunk (ST) only.	Female	1/32	Left side (unilateral)
LC originates from the ant division of ST, MT, and the IT.	Male	1/32	Right side (unilateral)
PC is formed by the posterior division of the common trunk (CT)	One female and One male	3/32	Both sides (bilateral) Right side (unilateral)
Rn originates from the PC of the CT and a branch from the medial cord.	Female	2/32	Both sides (bilateral)
Rn originates from the post div of the incomplete fusion of the superior and middle trunk without participation of the inferior trunk.	Male	1/32	Right side (unilateral)
Mn lateral root is formed by the union of independent anterior branches from the ST and MT. This lateral root joins the median root in the upper part of the arm.	Female	1/32	Left side (unilateral)
MCn receives contribution from the anterior branch of the superior trunk only (C5 & C6)	Female	1/32	Left side (unilateral)
MCn joins the Mn nerve on the left side and gives a communicating branch to the Mn on the right side.	Male	2/32	Both sides (bilateral)
One connection between the LC and the median root of the Mn on the right side and two connections between the lateral cord and the median root of median nerve on the left side.	Female	2/32	Both sides (bilateral)

trunk (C5, C6, C7) on both sides, leaving out the contribution of the inferior trunk (C8, T1) (Figs. 2 and 3).

In a male cadaver on the right side, there was an incomplete fusion of the superior and middle trunks (Fig. 4). In the same cadaver, the lateral cord loops around the second part of the Axillary artery and moves from lateral to posteromedial (Fig. 4).

In another male cadaver, a variation in the formation of the lateral cord was found. In this specimen, the lateral cord originates from the anterior division of the three trunks (Fig. 5).

In a female cadaver on the left side, the lateral cord is form only by the anterior division of the superior trunk without participation of the anterior division of the middle trunk. This lateral cord receives only contribution from C5 &C6 segments of the spinal cord gives the musculocutaneous nerve (MCn) and a branch that joins anterior division of middle trunk to form the lateral root of median nerve (MN) (Fig. 6).

Variation at the level of the terminal branches

A variation was observed bilaterally in a female specimen where radial nerve originates from the posterior cord of the common trunk and receives a communicating branch from the medial cord (Figs. 2 and 3). Also, in a male cadaver on the right side, radial nerve originates from the posterior division of the incomplete fusion of the superior and middle trunk without participation of the inferior trunk (Fig. 4).

A variation in the formation of the median nerve was also observed in a female cadaver on the left side. In this specimen, the lateral root of the Mn is formed by independent anterior branches from the ST and MT when joint together. This lateral root then joins the median root forming the median nerve at the superior part of the brachial region instead of the axillary region (Fig. 6).

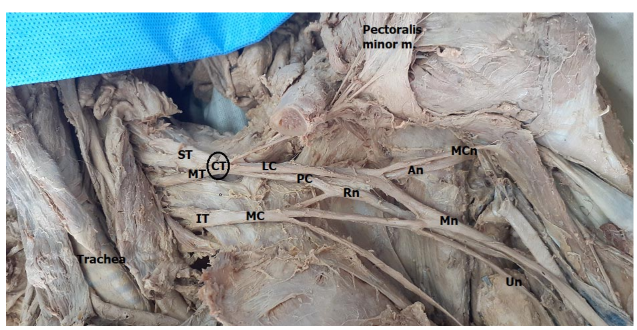

Fig. 2. This image demonstrates an anterior view of the neck and axillary region showing different parts of the left brachial plexus (Left side). Abbreviations: ST=superior trunk; MT=middle trunk; IT=inferior trunk; CT= Common trunk LC=lateral cord; PC=posterior cord; MC=medial cord; Rn=radial nerve; MCn= musculocutaneous nerve; An=axillary nerve; Mn= median nerve; Un=ulnar nerve.

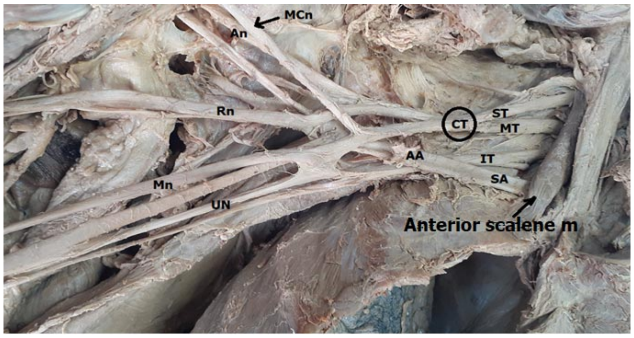

Fig. 3. This image shows the anterior view of the same female cadaver (right side). Abbreviations: ST= superior trunk; MT=middle trunk; IT= inferior trunk; CT= common trunk; SA= subclavian artery; AA=axillary artery, MC=medial cord; LC= Lateral cord; PC=posterior cord; MCn=musculocutaneous nerve; An=Axillary nerve; Rn= Radial nerve; MN=median nerve; Un= ulnar nerve.

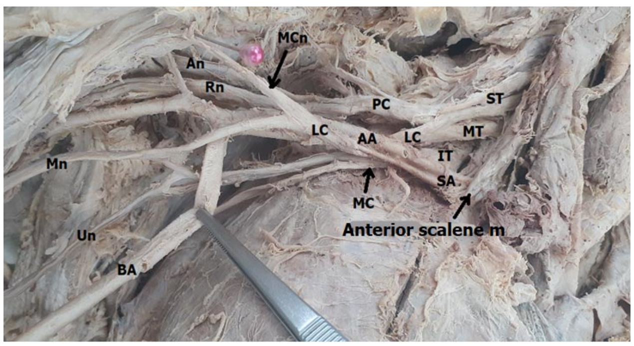

Fig. 4. This image shows an anterior view of the right brachial plexus in a male. Abbreviations: ST= Superior trunk; MT=Middle Trunk; IT= Inferior trunk; PC= Posterior cord; LC= Lateral cord; AA=Axillary artery; MC= medial cord; SA= Subclavian artery; MCn= Musculocutaneous nerve; An=Axillary nerve; Rn=Radial nerve; Mn= Median nerve; Un=Ulnar nerve; BA= Brachial artery.

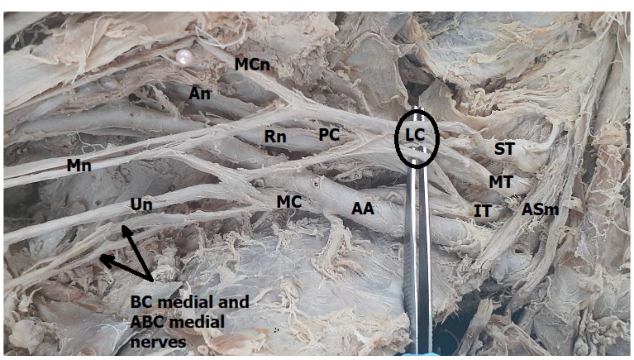

Fig. 5. Shows a photograph of the right brachial plexus of a male cadaver to demonstrate the formation of a lateral cord from the anterior divisions of the three trunks. Abbreviations: ST= superior trunk; MT=middle trunk; IT=inferior trunk; LC=lateral cord; MC=medial cord; MCn= musculocutaneous nerve; Mn=median nerve; Un=ulnar nerve; ASm= Anterior scalene muscle; BC medial and ABC medial nerves= brachial cutaneous medial nerve and antebrachial cutaneous medial nerve. (Anterior view).

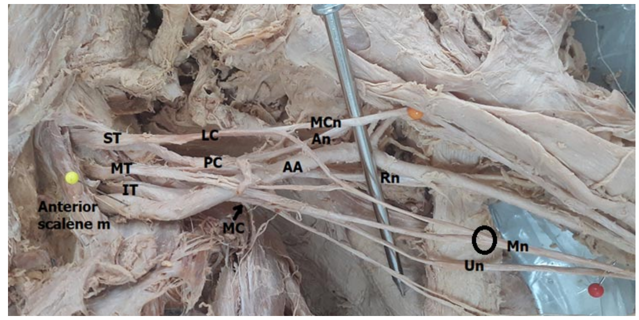

Fig. 6. An image showing an anterior view of the left axillary region of a female. Abbreviations: ST=superior trunk; MT=middle trunk; IT=inferior trunk; LC=lateral cord; PC=posterior cord; MC=medial cord; AA=axillary artery; An=axillary nerve; Rn=radial nerve; Mn=median nerve; Un= ulnar nerve.

In a male cadaver on the right side, the musculocutaneous nerve gives a communicating branch joining the median nerve in the middle of the arm (Fig. 7). In the same specimen, on the left side, the musculocutaneous nerve does not perforate coracobrachialis and joins the median nerve in the middle of the arm (Fig. 8).

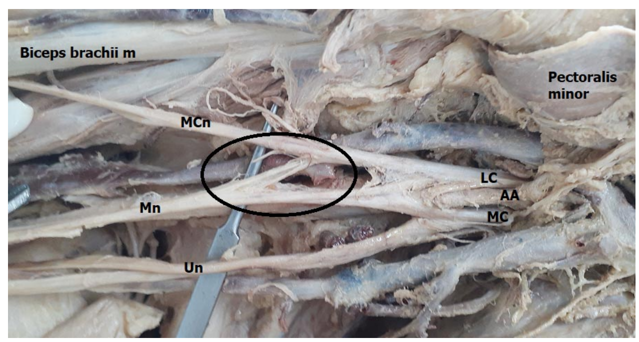

Fig. 7. An image showing an anterior view of a male right axilla and part of the arm where musculocutaneous nerve gives a branch joining the median nerve in the upper of the arm. Abbreviations: AA=Axillary artery; LC=lateral cord; MC=medial cord; MCn=Musculocutaneous nerve; Mn=median nerve; Un= ulnar nerve.

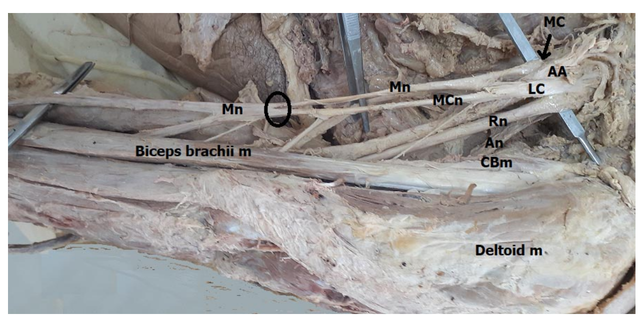

Fig. 8. This figure depicts an anterior view of a male left upper limb where musculocutaneous nerve does not perforate coracobrachialis and joins the median nerve in the middle of the arm. Abbreviations: AA=Axillary artery; LC=lateral cord; MC=medial cord; RN=Radial nerve; MCn=Median cutaneous nerve; Mn=median nerve; CBm=Coracobrachialis; An=Axillary nerve.

Another variation exists in female specimen on the right side where the lateral cord and the median root of the median nerve join. (Fig. 9). On the left side of the same specimen, there are two communicating branches from lateral cords joining the median root of the median nerve (Fig. 10).

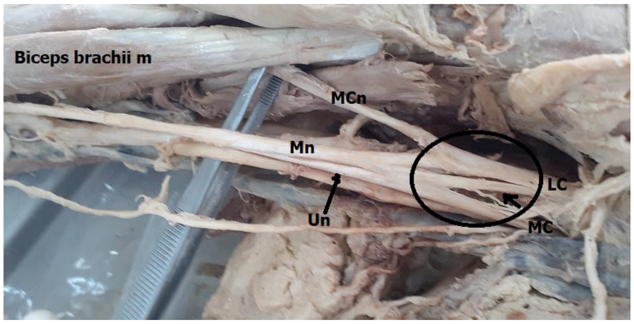

Fig. 9. This figure describes an anterior view of a female right upper limb and axilla where the lateral cord and the median root of the median nerve joins. Abbreviations: LC=lateral cord; MC=medial cord; MCn=Musculocutaneous nerve; MN=median nerve; Un= ulnar nerve.

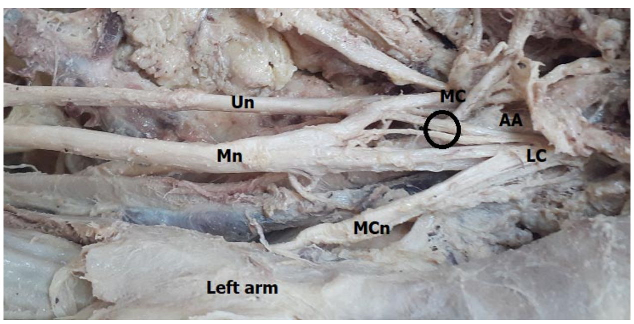

Fig. 10. This figure illustrates an anterior view of a female left axilla and upper arm where there are two connections between the lateral cord and the median root of the median nerve. Abbreviations: LC=lateral cord; MC=medial cord; MCn=Median cutaneous nerve; Mn=median nerve; Un= ulnar nerve.

DISCUSSION

The knowledge of variations in BP formation remains essential for the Clinicians, Surgeons and Anesthesiologists, especially in the administration of regional anesthesia, particularly BP blockade, which represents a widely employed technique for upper limb surgeries (Jones *et al*., 2020). However, the presence of variations in the BP anatomy poses a significant challenge in achieving effective and consistent blockade. Despite the acknowledgment of such variations in different populations, there is a limited information about the variations in the formation of BP regarding sex and laterality among some selected South African population. Hence, this study explored this gap in knowledge to document the prevalence of BP variations in relation to sex and laterality among the study population.

Variations at the level of the trunks of BP

In this investigation, half of the BP (50 %) followed the classical configuration as described by Standring (2008). The root values C5 and C6 formed the superior trunk, C7 constituted the middle trunk, and C8 and T1 combined to form the inferior trunk, observed in 50 % of cases.

However, the observed common trunk formed by union of the superior and middle trunks in a female cadaver (Figs. 2 and 3) on both sides concur with previous study by Nayak *et al*. (2005), in Indian population. In their study, C7 joined with the superior trunk (C5 & C6) on right side of a male cadaver. In another case report by Yildiz *et al*. (2011), an abnormal trunk formed by fusion of upper and middle trunks via roots C5, C6 and C7 was documented on the left side in a male cadaver. Although, the cases of common trunks have been widely documented previously and were mostly unilaterally, however, this current study presents a bilateral case in female cadaver. These findings together with the result of this study suggest a clinical implication on the axilla and upper limb. The symptoms of upper trunk lesion may be misguided in such cases of common trunk because of nerves and nerve roots involved in the formation of common trunk. This is on account that C7 root is involved in radiculopathy with symptoms such as absent triceps jerk and mild weakness of elbow extension while C5 and C6 root nerves damage indicates Erb's palsy (Moore *et al*., 1999; Kern & Lee, 2008; Yildiz *et al*., 2011).

Furthermore, an incomplete formation of the superior and middle trunks observed on right side in male cadaver in this present study indicates that the contributing nerve roots forming upper and middle trunks did not merge appropriately to form these trunks as revealed in Fig. 4. This incomplete formation therefore impacts the formation of the cords with subsequent implications. Previously, the cases of incomplete trunk formation have been reported which results in common trunk, single trunk, affecting their distribution with reduced number of nerve fibers, motor function and sensation in each trunk (Polcaro *et al*., 2023; Schlüter *et al*., 2024).

Variations at the level of the cords of BP

A distinct variation in a male specimen on the right side, where three anterior divisions from all the trunks collectively formed a lateral cord was identified as revealed in Fig. 5. According to the classical pattern of BP at the level of the cords, the lateral cord is typically formed by the anterior divisions of the superior and middle trunks (Polcaro *et al*., 2023). It is worth noting that neither the frequency nor the specific variation as observed falls within the range of those reported in the existing anatomical literature.

Variations in the embryological development of the brachial plexus could lead to discrepancies in the fusion of nerve fibers, resulting in the formation of unusual cords. The presence of unusual cord formations may lead to an incomplete blockade if the anesthesia does not adequately cover the nerves responsible for sensation in the targeted area. This could compromise the effectiveness of regional anesthesia (Feigl *et al*., 2020).

More so, the observed variation of posterior cord formation on both sides in female (Figs. 2. and 3) and on right side in male (Fig. 5) specimens which was exclusively formed by the posterior divisions from the common trunk (superior and middle trunks) without the contribution of the inferior trunk agrees with the previous report by Fazan *et al*. (2003). In their study, Fazan *et al*. (2003), noticed that the posterior cord was similarly formed by the posterior divisions of the superior and middle trunks in five plexuses consists of males and females on both sides. This variation may result in deficits in the posterior compartment of the arm and forearm, affecting muscles such as the triceps brachii as well as the extensor muscles in the forearm (Rastogi *et al*., 2013). In addition, there by may be deficits of nerve contribution to both radial and axillary nerves from both C7 and C8 root values (Fazan *et al*., 2003).

Furthermore, in a female cadaver on the left side, lateral cord formed only from the anterior branch of the ST gives a branch that joins anterior division of middle trunk to form the lateral root of median nerve (MN) (Fig. 6). Previously, studies have linked the developmental variations of the lateral root of median nerve to the changes that occur during brachial arch formation or closure of the neuropore which can lead to morphological or physiological aberration in the nerve actions (Woz´niak *et al*., 2012; Leijnse *et al*., 2020). Also, in the same specimen, the anterior division of middle trunk does not participate in the formation of musculocutaneous nerve (MCn) on left side (Fig. 6). This is a rare case of brachial plexus variations which may be attributed to the variations in the developmental process of BP with a critical consequence on axilla or upper limb during anesthetic procedure in these regions (Nichols *et al*., 2023).

Variations at the level of the terminal branches

A bilateral variation that was noticed in the formation of radial nerve in this study originates from the posterior cord of the common trunk and receives a communicating branch from the medial cord as revealed in Figs. 2 and 3 indicates a rare form of variation in the formation of radial nerve. Similar studies have documented this case where radial nerve originates from the posterior cord of the common trunk and receives a communicating branch from the medial cord (Agarwal *et al*., 2011; Rastogi *et al*., 2013; Rajeshwari & Kumar, 2013). This rare variation in the formation of radial nerve may influence the way sensory and motor information are being transmitted and the whole functional outcome of radial nerve.

Also, in a male cadaver on the right side, radial nerve originates from the posterior division of the incomplete fusion of the superior and middle trunk without participation of the inferior trunk (Fig. 4), which concurs with previous studies (Carlan *et al*., 2007; Aggarwal *et al*., 2010; Gupta *et al*., 2024). In these studies, the authors emphasized that the other branches may be compensating for the motor and sensory innervation to the area of distribution as the inferior trunk does not participate in the formation of radial nerves (Carlan *et al*., 2007; Aggarwal *et al*., 2010; Gupta *et al*., 2024).

Another variation exists in this study, where musculocutaneous nerve gives a communicating branch joins the median nerve in the middle of the arm on right side in a male specimen (Fig. 7). This variation is common as several studies have reported the cases of communication between musculocutaneous and median nerves (Chauhan & Roy, 2002; Choi *et al*., 2002; Fumo *et al*., 2024). This observation indicates that lesion of both median and musculocutaneous nerves may be manifested during trauma to lateral cord of BP and may be misleading during diagnosis (Chauhan & Roy, 2002; Choi *et al*., 2002).

Also observed was the case where musculocutaneous nerve does not perforate coracobrachialis muscle on the left side in a male cadaver (Fig. 8), which concur with the previous studies (Venieratos & Anagnostopoulou, 1998; Chauhan & Roy, 2002; Beheiry, 2004). This observation is common and has been linked to circulatory factors during fusion of the BP cords or deviation in the axonal guidance during developmental processes (Venieratos & Anagnostopoulou, 1998).

More so, lateral cord gives more than a branch in formation of median nerve on the left side of a female specimen in this study (Fig. 9), and other observation where two connections exist between the lateral cord and median nerve (Fig. 10). These anatomical variations of BP are common, have been widely documented and described as presence of additional communicating roots from lateral cord (Pandey & Shukla, 2007; Patil *et al*., 2023). These findings show the importance of knowing the variations that exist in the formation of median nerves and contributing roots to guide proper diagnosis and avoid pitfalls during procedures in axilla and upper limbs.

Differences and similarities of BP variations between the present study and literature

The brachial plexus variants presented in this study constitute a collection of rare variations in the configuration of the trunks, divisions, cords, and terminal branches thereby making a valuable contribution to anatomical literature.

Unlike the existing literature, this study did not identify any variations in the origin of the roots or variations related to the thoracodorsal, lateral pectoral, medial pectoral, medial cutaneous, upper, and lower subscapular nerves. Notably, the present study did not reveal any contribution from C4 (prefix) or T2 (post-fixed) elements in the BP, a point that contradicts the study conducted by some researchers (Guday *et al*., 2017; Benes *et al*., 2021).

In the present study of the BP variations, it was noteworthy that the traditional composition of the three cords,lateral, medial, and posterior, conformed to the pattern described by Standring (2021) and was consistently present in all the plexuses studied. This finding diverges from previous studies that have often reported the absence of one or more cords in the brachial plexus.

For instance, Pandey & Shukla (2007), noted the absence of the posterior cord in 3.5 % of male axillae, with a distribution of 2.3 % on the right side, 0.6 % on the left side, and 1.2 % bilateral. Another study by Agarwal *et al*. (2011), reported the formation of a single cord, an occurrence encountered in 4 male Indian cadavers during the dissection of 90 brachial plexuses.

In contrast, the present cadaveric study did not identify the absence of any brachial plexus cords, all three BP cords were present.

The following variations were observed in this study but were not previously documented in the literature:

i. Bilateral union of ST and MT in female specimen
ii. Formation of the lateral cord from the anterior divisions of the superior, middle, and inferior trunks.
iii. Medial positioning of the lateral cord in relation to the axillary artery.

CONCLUSION

This study revealed that most of variations of BP in female are usually bilateral and found on left side while variations in male are usually unilateral and on the right side. This study thereby suggests that variations in the formation of the BP in relation to sex and laterality exists and adequate knowledge is required for proper diagnosis and to avoid pitfalls during procedures in axilla and upper limbs. This research has contributed not only to the expanding body of anatomical knowledge but also to the potential clinical implications and surgical considerations associated with these variations.

Limitation. This present study unveiled a multitude of variations, some of which align with the known range of anatomical diversity documented in the existing literature. Furthermore, the striking prevalence of specific variations underscores the importance of continued exploration in the field of anatomical research. However, this study is therefore limited with the small sample size based cultural, religious, social and personal beliefs that prohibits body donation for educational and research purposes.

ACKNOWLEDGEMENTS. The Authors express their gratitude to the authorities of Walter Sisulu University who gave us their equipment and ensured that this study is conducted successfully. More so, the authors sincerely thank those who donated their bodies to science so that anatomical research could be performed. Results from such research can potentially increase mankind's overall knowledge that can then improve patient care. Therefore, these donors and their families deserve our highest gratitude.

MILANES-RODRIGUEZ, G.; OLOJEDE, S. O. & MAQOKOLO, A. Variabilidad del plexo braquial en sudafricanos seleccionados: lateralidad y variaciones relacionadas con el sexo. *Int. J. Morphol., 43(6)*:2062-2069, 2025.

RESUMEN: Este estudio investigó las variaciones del plexo braquial en relación con el sexo y la lateralidad en una población sudafricana seleccionada. Se diseccionaron bilateralmente dieciséis cuerpos embalsamados y se documentaron las variaciones en la formación del plexo braquial en función del sexo y la lateralidad. Dieciséis cuerpos embalsamados del mismo sexo mostraron variaciones, mientras que otros 16 presentaron un patrón clásico en la formación del plexo braquial, representando el 50 % cada uno en este estudio. Se observó la unión bilateral del tronco superior (TS) y el tronco medio (TM) en mujeres y la formación incompleta del TS y el TM en el lado derecho en cadáveres masculinos. El cordón posterior (CP) se formó mediante la división posterior del tronco común (TC), formado por las raíces C5, C6 y C7 en mujeres (bilateral) y hombres (lado derecho). Asimismo, en el lado derecho de un cadáver masculino, tres divisiones anteriores de todos los troncos formaron colectivamente un cordón lateral (CL). Además, el CL rodeaba la segunda porción de la arteria axilar de lateral a posteromedial en el lado derecho del cadáver masculino. Asimismo, el CL daba un ramo que se unía a la división anterior del TM para formar la raíz lateral del nervio mediano (NM) en el lado izquierdo en el cadáver femenino. Este hallazgo muestra que la mayoría de las variaciones del PB en mujeres suelen ser bilaterales y del lado izquierdo, mientras que las variaciones en hombres suelen ser unilaterales y del lado derecho en la población estudiada. Este estudio sugiere que existen variaciones del PB en función del sexo y la lateralidad, y se requiere un conocimiento adecuado para un diagnóstico y una intervención quirúrgica adecuados en el miembro superior.

PALABRAS CLAVE: Plexo braquial; Variaciones anatómicas; Sexo, lateralidad; Estudio cadavérico.

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