justified when the observer is still uncertain about the interpretation, or the fetus is judged to be in immediate danger. It would therefore be reasonable to expect that these tests would all be reported as of uncertain origin and that proposed management would be immediately to repeat the recording or to deliver the fetus. The fact that this was not the case in 10 (40%) of the 25 cases is difficult to explain but is probably due to inadequacies in the classification of NSTs or to inconsistencies in participants' decision-making. This is supported by the responses to the duration of records where the observer was uncertain of the category and felt that immediate repetition was indicated. It therefore seems that a report of too short a recording was justified by the proposed management in only 15 of the cases (7.4% of all cases). While these discrepancies could reflect on the level of experience of the interpreters, they apparently occurred only where the opinion was that a specific tracing was too short. Where the duration of a tracing was regarded as too long, the action seemed more appropriate. Three of the 4 cases where immediate action was considered necessary, in spite of the tracing's being regarded as too long (Table VI), occurred in patients where the DRC had not been met after 80 minutes. The participants felt that the variability was so poor that the tracings had been allowed to continue for too long before the doctor was called. It could possibly be argued that inconsistencies in response to recordings regarded as of too short a duration might reflect the inexperience of the interpreters. However, in such a case, it does not necessarily invalidate their opinion that specific tracing is too long, as it might also be reasoned that a cautious observer would be rather less inclined to give such a report. Obviously no definite conclusions can be made, but the question remains as to whether the proven benefit of decreased monitoring time with the Sonicaid System 8000 could be made applicable to our own circumstances. Clearly, more studies are needed.

The exact application of a computer-assisted cardiotocograph system in an OSCU in a developing country is not clearly defined. While it undoubtedly contributes to a reduction in the variation of proposed management by different observers, the possibility exists that it might take longer to perform if recording is to be continued till the DRC are met.

REFERENCES


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High frequency of the median artery of the forearm in South African newborns and infants

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In a sample of 60 neonates and infants from black communities in the Johannesburg area, the median artery of the forearm was found in 50% of individuals (11.7% in one forearm only, 38.3% in both forearms). The frequency per forearm was 44.2%, much higher than that found in any previous study, even among adults from the same community (27.1% per forearm). The artery occurs bilaterally significantly more often than it does in one antimerere only. There are no differences in its frequency between sexes or between antimeres. The artery provides an additional route of blood supply to the forearm that should be kept in mind by hand surgeons. It can also be harvested for vascular grafts.


Practitioners tend to regard anatomical structure of the human body as rigidly determined. It seems natural to refer to a standard text in order to learn about a particular anatomical arrangement in a particular patient. Human anatomy is variable from individual to individual and seems to undergo changes between generations. Knowledge of variations in the anatomy of organs, muscles, nerves, vessels etc. is useful for diagnosis and in surgical procedures.

We recently reported a 27% frequency of the median artery of the forearm among adult South Africans. Acting as a third route of blood supply to the hand, this vessel may be of importance in cases of hand and wrist injuries requiring surgical repair of arteries. Since it lies in a relatively superficial position in the distal forearm, the artery may also be harvested for vascular grafts.

The large median artery supplying blood to structures in the forearm and the hand was reported by other authors to have an incidence ranging from 2.2% to 4.4% to 8.3% and 20%. The very high frequency of the median artery found by us needs to be confirmed by further study of individuals from the same population. This paper reports on the frequency of the median artery in a group of South African neonates and infants.

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Studied the (Am) in Hand extremities. McConnack Henneberg that sample is statistically significant. Jackson IT, Campbell JC. An unusual case of carpal tunnel syndrome (A case of Royal Southern Africa. February in at least one MiSfa artery Henneberg artery 97: syndrome due cadavers. M. Continuing human evolution: Bodies, mediana. of the trend the found repeatedly in three in 8.5). would be M. George Adachi 48: 159-182. H< Variations artery J. Kyoto: Maruzen Press. 1928. India failed to find bilateral differences and Sac The artery artery = of the study of the high BD. U. the arteries Japaner. Bertheussen 158) in the forearms of adults (black and white. Nljhoff. 1982 Surg an anatomical Anatomical variations 86 Girls Table 11. Incidence of the median artery per forearm by sex of the artery (Table 11). This finding is statistically significant when a sign test is applied (χ² = 8.5). It should be noted that exactly 50% of the entire sample had the median artery in at least one forearm. The limits of the 95% confidence interval for this figure are 37.3% (lower) and 62.7% (upper). They thus overlap with those for the percentage of forearms with the artery. Among 7 individuals with the artery unilaterally present, only 2 had it solely in the left forearm whereas 5 had the artery solely in the right forearm. These numbers are too small for any statistically valid conclusion to be drawn.

<table>
<thead>
<tr>
<th>Table I. Incidence of median artery by individual</th>
<th>Median artery present</th>
<th>Median artery absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unilaterally</td>
<td>Bilaterally</td>
<td>Bilaterally</td>
</tr>
<tr>
<td>No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>11.7</td>
<td>38.3</td>
<td>50.0</td>
</tr>
</tbody>
</table>

There is no significant sexual dimorphism in the presence of the artery (Table II).

<table>
<thead>
<tr>
<th>Table II. Incidence of the median artery per forearm by sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forearms With artery Without artery</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>No.</td>
</tr>
<tr>
<td>Girls</td>
</tr>
<tr>
<td>Boys</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Discussion

Our previous studies failed to find bilateral differences and sexual dimorphism in the presence of the median artery in adults from the same area as the neonates and infants studied here. We have also previously indicated the tendency of the artery to occur bilaterally. This study statistically supports our previous suggestion. The fact that the median artery occurs more often in both antimeres of the same individual than in one only suggests that this occurrence may be due in part to heritable factors. This suggestion is based on the premise that both antimeres contain the same genetic material but may be differentially influenced by randomly acting environmental factors. If the presence of the artery were due to non-genetic factors acting locally during intra-uterine life, the artery would be present randomly in only one or the other limb. Its regular presence in both antimeres indicates at least that there is a factor common to both limbs.

The frequency of the median artery in our sample is much higher than in any other sample hitherto reported, even when the lower limit of the confidence interval is taken into account. In a previous paper we reported a frequency of 27.2% (N = 158) in the forearms of adults (black and white alike) from the same area, i.e. the vicinity of Johannesburg. The difference between the frequency of the artery in the present sample and in that sample is statistically significant (2 x 2 contingency table, χ² = 8.67). Neonate-adult differences in the occurrence of the median artery require further study. The differences may be a result of disappearance of the artery during childhood in some individuals, neonatal mortality of individuals with the artery, or differences between generations.

The high frequency of the artery found repeatedly in three South African samples indicates that its presence may be expected in numerous patients. This fact needs to be considered by practitioners. In addition to its significance in hand surgery and the possibility of harvesting it for grafts, there have been cases in which the artery was responsible for symptoms of carpal tunnel syndrome and jackhammer syndrome.

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