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Journal Name:	Journal of Advances in Medicine and Medical Research
Manuscript Number:	Ms_JAMMR_109637
Title of the Manuscript:	Assessment of Aortic Root in Tetralogy of Fallot by Multislice Computed Tomography
Type of the Article	Original Research Article

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>1. Based on my review, this manuscript on the role of multislice CT in assessing aortic root rotation in tetralogy of Fallot is important for the scientific community for the following reasons:</p> <ul style="list-style-type: none"> - Tetralogy of Fallot is a complex congenital heart defect requiring detailed anatomical assessment prior to surgical repair. This study explores using CT to quantify an anatomical parameter, aortic root rotation, linked to disease severity. - The results demonstrate a correlation between the degree of clockwise aortic root rotation and pulmonary artery/valve hypoplasia in TOF patients. This enhances understanding of the underlying pathology. - The study introduces a cutoff value for the aortic root rotation angle that distinguishes TOF patients likely to have pulmonary valve stenosis versus atresia. This could aid surgical planning and counseling. - CT is increasingly used for imaging congenital heart defects. This study adds evidence regarding its utility in precisely assessing anatomy, particularly rotation abnormalities, in TOF patients. - Quantitative assessment of structural changes enhances insight into the embryological underpinnings of congenital defects. Overall, this is a valuable study demonstrating the use of advanced CT imaging to improve quantitative analysis of anatomical derangements in TOF. <p>In summary, this manuscript makes an important contribution by quantitatively evaluating an anatomical parameter in TOF and correlating it to disease severity, thereby providing insight of scientific and clinical value.</p> <p>2. The current title "Assessment of Aortic Root in Tetralogy of Fallot by Multislice Computed Tomography" is appropriate and descriptive for this study. However, some minor modifications could make it even more informative: Suggested revised titles:</p> <ul style="list-style-type: none"> - "Quantitative Assessment of Aortic Root Rotation in Tetralogy of Fallot Using Multislice Computed Tomography" - "Evaluating Aortic Root Rotation in Tetralogy of Fallot by ECG-Gated Multislice CT" - "Multislice Computed Tomography Evaluation of Aortic Root Rotation in Tetralogy of Fallot" <p>The key advantages of the revised titles:</p> <ul style="list-style-type: none"> - Highlight the quantitative measurement of the aortic root rotation, which is the main focus of the study. - Specifically mention use of ECG-gating and multislice CT since advanced imaging is critical. - Emphasize that patients with Tetralogy of Fallot are being evaluated. <p>In summary, the current title is appropriate but a revised version that more clearly conveys the quantitative analysis of aortic root rotation by ECG-gated multislice CT in Tetralogy of Fallot patients would better capture the key contribution of this study.</p> <p>3. Based on my review, the abstract covers the key points of this study adequately but could be improved with some additional information:</p> <p>Positive aspects:</p> <ul style="list-style-type: none"> - Clearly states the study aims to assess aortic root rotation by CT as an indicator of disease severity in Tetralogy of Fallot patients. - Provides brief background on the link between aortic root rotation and conal malseptation in TOF. - Summarizes the main findings on aortic root angle differences between TOF-PS and TOF-PA groups. <p>Suggestions for improvement:</p> <ul style="list-style-type: none"> - Indicate that this is a prospective study and provide the number of patients included. - Add 1-2 sentences about the methods - use of ECG-gated multislice CT for imaging the aortic root. - State the negative correlation found between aortic root angle and indexed MPA diameter. - Mention the proposed cutoff value for aortic root angle to distinguish likely pulmonary stenosis vs. atresia. 	

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	<p>In summary, the current abstract provides a nice concise summary but could be enhanced by adding a few more methodological and results details as outlined above. This would help readers better understand the nature of the study and key outcomes without needing to read the full text.</p> <p>4. Based on my review, the structure and organization of sections in this manuscript are appropriate and logically sequenced:</p> <ul style="list-style-type: none">- Title and Abstract provide a clear overview of the study focus, methods, and main findings.- The Introduction gives relevant background on Tetralogy of Fallot and the rationale for assessing aortic root rotation by CT as an indicator of disease severity. The objectives are clearly stated.- The Methods section contains subsections detailing the study design, patient criteria, CT imaging protocols, image analysis techniques, and statistical methods. This provides a clear picture of how the study was conducted.- The Results are organized into subsections presenting the patient classification, comparison of groups, imaging findings, aortic root rotation results, relationship with MPA diameter, and proposed angle cutoff. Tables and figures help convey the results.- The Discussion interprets the main findings, compares to relevant prior studies, explains the anatomical and developmental implications, notes limitations, and summarizes the key conclusions.- References are appropriately cited in the text and comprehensive. <p>The use of informative subheadings and logical flow between introduction, methods, results, and discussion follows the conventional structure for a scientific manuscript. The content within each section contains the relevant details and data for a study of this nature. The organization enhances readability.</p> <p>In summary, the overall structure and organization of sections is appropriate and systematic, following the standard format expected for a medical research publication. The manuscript sections and content are well-suited for the study aims and data being presented.</p> <p>5. Based on my review, I believe this manuscript presenting a study on assessing aortic root rotation in Tetralogy of Fallot patients using multislice CT is scientifically sound and correct overall:</p> <ul style="list-style-type: none">- The background provides relevant context about Tetralogy of Fallot and the rationale for evaluating aortic root rotation as an indicator of disease severity. This establishes a logical basis for the study aims and methodology.- The methods adhere to scientific principles and describe the procedures in adequate detail for this type of cardiac imaging study. Using standardized CT protocols and established techniques for image acquisition and analysis lends scientific validity.- The results are presented clearly with appropriate use of tables and figures to display the quantitative and statistical data. The findings appear robust and valid.- The discussion interprets the results in the context of previous research and known principles of cardiac development and anatomy. Limitations of the study are acknowledged.- References are well-documented and cite reputable sources. The authors demonstrate familiarity with current literature on the topic. <p>Overall, the manuscript follows the scientific method with sufficiently described methods, objective results, and thoughtful discussion grounded in the existing body of knowledge. I did not identify any obviously unscientific or incorrect assertions. The research and reporting standards match what would be expected for a study of this kind.</p> <p>In summary, I find this to be a scientifically sound and valid manuscript presenting what appears to be a carefully conducted imaging study assessing aortic root anatomy in Tetralogy of Fallot patients.</p> <p>6. Based on my review, the references cited in this manuscript are generally sufficient and appropriately recent for a study on assessing aortic root rotation in Tetralogy of Fallot patients:</p> <ul style="list-style-type: none">- The manuscript cites 24 references. This seems an appropriate amount to provide context and support for a focused research study.- Most references are quite recent, within the last 5-10 years, indicating up-to-date information was researched and cited.- Inclusion of some foundational older works such as the 1967 Kawasaki paper provides helpful historical context.- References come from pertinent and reputable sources such as Radiology, BMC Cardiovascular Disorders, Scientific Reports, etc. demonstrating the use of authoritative references. <p>Suggestions for additional references:</p> <ul style="list-style-type: none">- A reference could cite 1-2 more papers using CT for quantitative anatomical assessment in	
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	<p>congenital heart disease to reinforce this approach.</p> <ul style="list-style-type: none"> - Reference [10] on TOF imaging could be updated to a more recent paper. - A reference supporting some embryological or developmental concepts may be helpful. <p>Overall the references are appropriate, recent, and support the study well. The suggestions above provide some options to further strengthen the reference list.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Based on my review, the language and English quality of this manuscript are appropriate and suitable for a scholarly medical publication:</p> <ul style="list-style-type: none"> - The writing is clear and straightforward, using technical terminology expected for a clinical radiology study. - The grammar, spelling, and syntax are generally correct throughout the manuscript with no overt errors identified. - The sentence structure and organization flow logically. - The language used is formal and consistent with a research publication. - Medical and anatomical terms are used accurately to describe the imaging methods, patient conditions, and results. - The word choice and phrasing are technical yet understandable and convey the intended meaning precisely. - Acronyms and abbreviations are defined properly when first introduced. - The level of detail and explanation seems well-suited to the intended radiologist audience. <p>Overall, the English language quality enables effective communication of the study background, methods, results, and conclusions. The writing style and vocabulary align with standards for scholarly medical journals. The prose is clear, professional, and optimally convey the technical details.</p> <p>In summary, I found the English language usage and quality to be appropriate and satisfactory for a research publication in a medical imaging journal. The writing allows the content to be accessible and understandable to readers.</p>	
<p>Optional/General comments</p>	<p>This manuscript presents a prospectively designed study evaluating the utility of ECG-gated multislice CT for quantitatively assessing aortic root clockwise rotation angle in Tetralogy of Fallot patients. The background establishes the potential link between aortic root rotation and conal maldevelopment severity. The imaging methodology is sufficiently detailed. The analysis of 30 patients demonstrates a correlation between greater aortic root rotation angle and more severe pulmonary artery hypoplasia, introducing a potential cutoff value to distinguish likely pulmonary valve stenosis versus atresia. Overall this is a focused, well-conducted study advancing the quantitative assessment of an anatomical parameter that may provide clinically valuable insights into the pathology and management of Tetralogy of Fallot. Additional multicenter research could help validate and expand on these initial findings.</p> <p>Based on my review, I did not identify any major ethical concerns with this manuscript:</p> <ul style="list-style-type: none"> - It appears the study was conducted in an ethical manner based on the details provided. - The authors state it was a prospective study involving human subjects who underwent CT exams. - Informed consent and institutional approval would be expected for this type of clinical study. The authors should confirm this was obtained. - Inclusion/exclusion criteria are listed and seem reasonable. Patients were excluded if they had impaired renal function or required life support. - The CT scanning and contrast administration protocols are described and appropriate for pediatric cardiac imaging. Weight-based dose adjustments were made. - Sedation procedures are detailed for younger children, using standard medications at usual doses. No unnecessary or risky methods were used. - The paper does not raise concerns about patient privacy or use of data. No patient identifiers are provided. - There are no apparent conflicts of interest or sources of bias. - The discussion includes study limitations and does not overstate the conclusions. <p>Overall, this clinical research appears to have been conducted in an ethical manner, with attention to patient safety and wellbeing. Some minor clarification on informed consent procedures would further confirm the ethics. But I see no major ethical problems with the study or manuscript.</p>	

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	<p>Based on my review, I did not identify any apparent competing interests or ethical concerns related to the authors of this manuscript:</p> <ul style="list-style-type: none"> - The authors do not declare any financial or non-financial conflicts of interest. - There are no stated conflicts related to commercial entities, intellectual property, or affiliations with interest groups. - The study does not seem to promote any particular product or company. - There is no indication that the authors would benefit financially or otherwise from the publication of this study. - The authors appear to have conducted and reported the study objectively, without bias towards a particular outcome. - There is no mention of unethical human or animal research. - The authors do not seem to have any personal relationships or affiliations that could be perceived as conflicts of interest. <p>In summary, I did not find any statements or evidence within the manuscript that would indicate or suggest the presence of competing interests, ethical issues, or conflicts of interest. The authors appear to have adhered to ethical standards and disclosed any potential competing interests appropriately.</p> <p>Unless I have missed something subtle, I do not believe competing interests or conflicts of interest pose an issue for this manuscript.</p> <ul style="list-style-type: none"> - The language, writing style, and scientific content appear original. - The authors appropriately cite and reference previous sources when stating background information and prior research findings. - Passages from the introduction and discussion align with the standard way of reviewing literature and placing a study in context, not duplicating text. - I searched for some unique phrases from the abstract and main text and did not find exact matches online. - The figures and tables contain specific data generated in this study. 	
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PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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