

A NOVEL METHOD OF THE SIMULTANEOUS AUSCULTATION BY THE STETHOSCOPE HAVING THE TWO CHEST PIECES

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Abstract—Such method of auscultation is used for

A) The correlation of the Korotkoffs sound with the first heart sound

B) This stethoscope is used for other purposes also for examples -

1) For comparing the intensity of the second heart sound at the pulmonary area and at the apex or mitral area

2) For comparing the intensity of the murmur at the aortic area and at the mitral area

3) For comparing the air entry at the same areas of the right and left lung as well as at the different areas of the auscultation of the same lung.

Index Terms—A stethoscope having the two chest pieces, Wireless Stethoscope, koroktoff's sound, First Heart Sound.

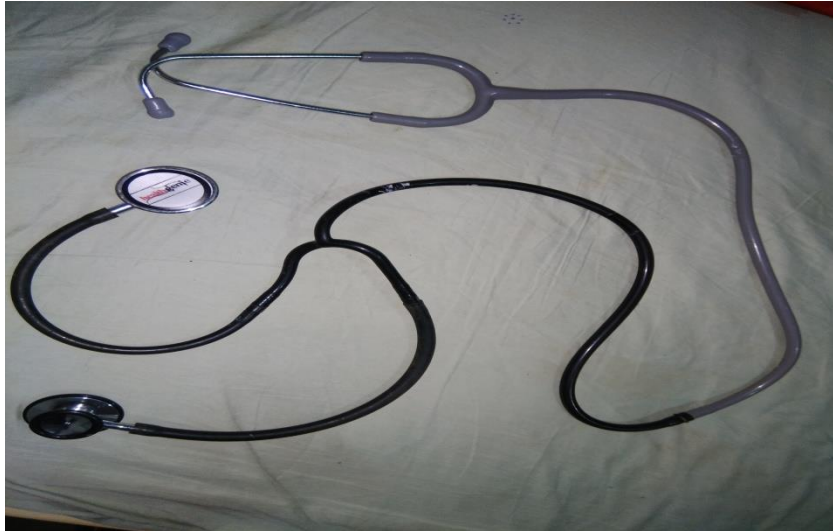
I. INTRODUCTION

For decades, the bedside clinical examination of the patient with the cardiac or respiratory disease by using the stethoscope had played the very important vital role. For diagnosis with the recent advancement in the imaging technology & the various modalities of investigations, I feel that this has made some

decline in the importance of clinical examination however the bed side clinical examination & the auscultation with the help of the stethoscope remained the corner stone in the diagnosis of the cardio -respiratory diseases. Many times in the auscultation technique we face some difficulties in comparing the sound at the different auscultatory areas and while correlating the sounds. Considering this issue, a stethoscope with the dual chest pieces has made. The basic propose of such a stethoscope is to co-relate the Korotkoff's sound with the first heart sound. This stethoscope can be used for other purposes also.

II. A STETHOSCOPE WITH TWO CHEST PIECES

This stethoscope is made by using the two chest pieces and different rubber tubes of having the equal lengths. The rubber tubes are connected to each other by using the connectors. The one chest piece is used to hear the heart sounds at the mitral area or the apex and another chest piece is used to listen the Korotkoff's sound. The B.P cuff initially inflated about 10mm above the systolic Blood pressure. Then this mercury level or cuff pressure reduced very slowly while auscultating the Korotkoff's sound & the heart sounds. It is easier to co-relate the Korotkoff's sound with the first heart sound by this kind of stethoscope.



III. DISCUSSION

The very first application of this stethoscope is the correlation of the Korotkoff's sound with the first heart sound. Initially B.P. was taken by the stethoscope. The B.P. cuff pressure was raised about 10 mm above the systolic pressure then the B.P cuff pressure is slowly reduced while auscultating the heart sounds simultaneously by one chest piece & the Korotkoff's sound by another chest piece. The auscultator will hear the only two sounds that means the Korotkoff's sound correlates with the heart sound. The intensity & characters of the heart sounds are different from the each others.

The character & the intensity of the korotkoff's sound is similar to that of the first heart sound and it comes simultaneously with the first heart sound I definitely say that the origin of Korotkoff's sound is the closure of the mitral valve. The intensity & the character of the second heart sound is different than that of the Korotkoff's sound and it does not occurs simultaneously with second heart sound. Hence I definitely say that it is not produce due to the closure of the aortic valve. The turbulence of the blood flow either in the heart due to the stenosis or the incompetence of the valves or the narrowing of the great vessels by the structure will produce the murmur or bruit & not the sound.

IV. CONCLUSION

After simultaneously auscultating the heart sounds & the Korotkoff's sound in many patient I conclude that the origin of Korotkoff's sound is due to the closure of the mitral valve. This finding needs further confirmation with the simultaneous recording of the sounds on paper with the help of the wireless stethoscope or phonocardiography or sound recorder. This kind of the stethoscope can be used for the other purposes also.

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