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View of Thorax Palpation and Apex Beat Analysis in the Field Medical Practice

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Despite the extraordinary performances of contemporary methods of investigation (echocardiography, scanner, magnetic resonance imaging, etc.), clinical examination retains all its importance in Cardiology, particularly in extra-hospital settings. The authors have experience of cardiological diagnosis in France and in French-speaking African countries [1-4]: Benin, Mali, Niger, Senegal and for one (CA) in Vietnam (Hanoi and Danang). They have also taught and supervised medical students, either as permanent residents (Mali, Niger), or during official educational missions. They were able to observe the attraction of students and young doctors for modern techniques, because training takes place in hospitals, places where these techniques are practiced. The diagnoses are discussed in front of imaging results displayed on computer screens. Clinical data, without being neglected, is in the background. While such training is hospital-based, the future of most of these doctors, or future doctors, is extra-hospital: they will have to make diagnoses at the clinic alone, without any immediate possible recourse to sophisticated techniques. Their training in clinical examination is therefore a priority. We are discussing here chest palpation and more specifically the analysis of cardiac apex beat. Palpation of the chest does not require any equipment, only the consent of the patient. If there is a language barrier (very common in Africa with non-French speaking patients of rural origin), this palpation will provide the same diagnostic orientation as in a French-speaking city dweller. It therefore deserves to be

practiced systematically. It will be followed by auscultation, guided by palpation. The high incidence of several heart diseases [1] in French-speaking Africa fully justifies this position: hypertensive heart disease, rheumatic heart disease, valve disease, dilated cardiomyopathy, myocarditis, ischemic heart disease, the latter more frequent in recent years.

The apex beat is located on a lowered line from the middle of the left clavicle, at the intersection of the left fifth intercostal space. It corresponds to left ventricular systole, perceived as a shock of short duration over an area of 2 to 3 square centimeters. It is more easily detected if the patient is lying on their left side (left lateral decubitus) or if they lean forward while standing. The examiner places the palm of the hand flat over the left latero-sternal region to locate the shock. Then he can, by applying the pads of the fingers (index and middle finger), make a detailed analysis of the movement. This apex beat is perceived more or less easily. In the elderly, overweight, it is hardly noticeable. On the other hand, in young subjects and in children, it is easily identified. The features of advanced apex beat are of great practical interest. Its normalcy allows immediate confirmation that the heart is regular and that the heart volume is probably normal. In the pathological states, different situations can be observed. Apex beat deviated to the left is in favor of left ventricular hypertrophy. An irregular apex beat in amplitude and frequency indicates a disturbed heart rhythm. An abnormally large apex beat, against the background of tachycardia,

is characteristic of severe chronic anemia or cardio thyrotoxicosis. A spread out apex beat, perceived over a larger area, indicates an enlarged and dilated heart. Furthermore, if the shock is soft, weak, it is probably indicative of dilated cardiomyopathy. Thrill is sometimes felt, especially when the examiner's hand is resting flat on the apex region. If the thrill is contemporaneous with the beat, there is likely an intense systolic murmur with mitral insufficiency, confirmed by auscultation. If the thrill (cat's purr) occurs outside of 2 pulsations, consider mitral stenosis, and look for the characteristic diastolic rumble by auscultation.

All these signs are more accessible to the examiner as he is trained to look for them. We must therefore encourage our young coworkers, doctors, or students, to practice this gesture on a routine basis. During their hospital training, they also benefit from the correlation between clinical signs and echocardiographic signs.

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Conflict of Interest

No conflict of interest.

References

1. Cenac A, Mounio OM, Develoux M, Soumana I, Lamothe F, et al. (1985) Cardiac diseases in adults at Niamey: an epidemiological Study. *Tropical Cardiology* 11(43): 125-134.
2. Cenac A, Djibo A (1998) Postpartum cardiac failure in Sudanese-Sahelian Africa: Clinical prevalence in western Niger. *Am J Trop Med Hyg* 58(3): 319-323.
3. Cenac A, Traore-Kissima A, Ba Serigne A, Narbonne V, Sarr M, et al. (2008) Ventricular dysfunction during acute fever in Dakar, Senegal. *Clinical data and serological studies* 68(2): 155-161.
4. Traore-Kissima A, Cenac A, Narbonne V, Payan C (2019) Clinical cure of fulminant myocarditis associated with *Chlamydia Pneumoniae* and Parvovirus B19 superinfection. *SL Clinical and Experimental Cardiology* 2(1): 119.