and the participants that correctly diagnosed the condition (-0.09; confidence interval, -0.24 to 0.33).

There were statistically significant differences in the subjective perception of seriousness between the participants and the experts for most of the ECGs. The exceptions were the ECGs showing hypertrophic cardiomyopathy, Brugada pattern, and alternating bundle branch block (Figure).

Of note was a tracing with a QT interval of 580 ms, which received a median seriousness score of 42 (0-100) from the participants who diagnosed it correctly, compared with 72.5 (70-75) from the cardiologists.

For Wellsell syndrome, the median seriousness score from the participants was 56 (20-100), while the cardiologists assigned a score of 90.

Of the bradyarrhythmias, 2 deserve comment: complete atrioventricular block and Mobitz type II second degree atrioventricular block. Complete atrioventricular block was correctly identified by just 33%, with a median seriousness score of 65 (20-100) vs 87.5 (85-90) according to the experts. Mobitz type II was correctly diagnosed by 20.2% of participants, with a median seriousness score of 40 (10-90) compared with 85 (80-90) from the cardiologists.

Figure shows how similar discrepancies occurred in the interpretation of all 10 ECG tracings.

Despite the fundamental role played by ECG in the diagnosis of cardiovascular disease, these findings demonstrate that ECG interpretation is in need of remedial action, particularly for physicians who are the first medical contact. This conclusion is in line with the findings of other available studies.3

Our study shows an extremely low percentage of correct diagnoses and poor recognition of electrocardiographic patterns in the population analyzed.

Another even more shocking finding of this study is the incorrect perception of seriousness for several potentially fatal cardiovascular conditions that are diagnosed primarily from ECG. On many occasions, these were considered harmless, highlighting the need for training programs for such physicians on the correct interpretation of ECGs.

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REFERENCES

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Retrograde migration of the prosthetic valve following TAVI is rare. It can occur during the procedure, within the first few days after the procedure or subsequently. The first step in developing a solution is to identify the contributing factors for migration. These range from prosthesis malpositioning (ie., too low), suboptimal valve expansion, uneven or insufficient aortic annulus calcification leading to inadequate prosthesis fixation, aortic paravalvular regurgitation, valve undersizing, and anatomical or functional bicuspid valves. In our patient, the first cause was deemed responsible for this complication, although we cannot be sure that underexpansion did not also occur. It is as important to identify the true causes of migration as it is to exclude other factors. This enables appropriate solutions to be selected and also avoids potentially damaging ones. For example, wrongly considering valve undersizing as a cause of migration may lead to the subsequent use of an oversized valve with a high risk of further damage. Additionally, the use of fully repositionable valves may reduce the risk of malposition and migration. We also speculate that direct implantation (without predilation) could reduce the risk of this complication.

Once the causes of the migration have been determined, a surgical or percutaneous approach must be quickly chosen in a Heart Team setting, as the consequences of valve migration can be catastrophic if the valve extends beyond the outflow tract into the left ventricle cavity. In the few reports describing this complication, surgery was the preferred method in almost all published cases. Indeed, we found only 1 case in which this problem was solved by a percutaneous approach, but that was a case of valve undersizing and the complication still occurred during the procedure.

While surgery was considered in this case, we believed a valve-in-valve procedure was the safest way to solve the problem because the prosthesis was not interfering with the mitral apparatus, the patient had a porcelain aorta, and the migration was a consequence of valve subexpansion and slightly low positioning. The second prosthesis would be fixed not only in the native annulus but also on the original prosthesis, thereby preventing migration of both valves. This approach seems to have been justified by the patient’s favorable outcome.

**Figure 1.** A, Fluoroscopy images depicting preimplantation. B, Immediate postimplantation. C, Prosthesis position following migration. D, Final result after the valve-in-valve procedure. White arrow pointing toward native valve. Black arrow pointing toward prosthesis.
Figure 2. A. Echocardiographic images depicting preimplantation. B. Immediate postimplantation flow through prosthesis. C. Left ventricle-aorta gradient following prosthesis migration. D. Two-dimensional image of the prosthesis after migration. White arrow pointing toward native valve calcium. Black arrow pointing toward prosthesis.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found in the online version available at doi:10.1016/j.rec.2016.08.003.

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REFERENCES


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Transcatheter Aortic Valve Implantation in Patients With Arterial Peripheral Vascular Disease

Implante percutáneo transfemoral de válvula aórtica en pacientes con enfermedad arterial periférica

To the Editor,

Transcatheter aortic valve implantation (TAVI) via the transfemoral route appears to improve survival and cause fewer complications than transapical implantation. Whenever possible, the transfemoral route should therefore be the first choice.1