the pathophysiological substrate of the different syndromes (heart failure, myocardial infarction, mitral regurgitation, ventricular arrhythmia with sudden death) associated with this condition.

Our patient underwent LMCA reimplantation, the most commonly described therapeutic approach. Immediate postoperative course was torpid, with posterior favorable clinical outcome. Echocardiography and MRI showed mild deterioration of the left ventricular contractile function, with no other significant pathological finding.

The probable mechanisms of this evolution could be the inherent myocardial injury of cardiovascular surgery, inadequate myocardial protection determined by the cardiac anatomy of the patient, and the flow competence between the LMCA and the right coronary artery (RCA) –evident in the coronary angiography– on dilated and tortuous arteries, favoring coronary artery ectasia, resulting in myocardial injury.

There are no long-term studies on large adult populations with ALCAPA repair. Long-term outcome after revascularization mainly depends on the extension of nonviable myocardial tissue. (1) Due to the high risk of sudden death, placement of an implantable cardioverter defibrillator was determined.

This clinical case is presented because of the low prevalence of the condition. Occurrence in adults is even less prevalent. In this particular case, the postoperative course was atypical, with cardiogenic shock followed by recovery of left ventricular function.

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Nurses' Perceptions and Attitudes towards Automated Records in a Coronary Care Unit

Most published articles on the impact of information technologies on health care (eHealth) tend to show its benefits and positive outcomes but not its drawbacks. Publication bias against the problems these technologies could bring increases four times the likelihood of publishing studies that include beneficial rather than detrimental outcomes. (1) A recent systematic review concluded that there is still a large gap between the advantages postulated by information technology enthusiasts and the empirically demonstrated benefits. (2) In any case, the advantages of automated processes related to health care -such as electronic records- are greater in outpatient care or in non-critical care settings. However, automation of nursing processes in critical care may have opposing effects to the alleged efficacy and cost reduction. Perhaps a more informal qualitative analysis could demonstrate the less manifest negative impact of implementing a system of electronic records on nursing care in critical settings.

In February 2015, we took part in an experience of automated daily nursing records in the Coronary Care Unit of a private institution in the City of Buenos Aires. Two weeks after implementing the system and training the nursing staff, we performed a series of 15 open qualitative interviews to learn the nurses' opinions and attitudes towards automated recording of daily progress and treatment of critical patients. The computerized system allowed nurses to manage medical indications, daily nursing records, pharmacy orders, and request complementary tests ordered by doctors. Regarding the positive aspects of electronic records, nurses pointed out that the system immediately warned them of new indications and prescriptions doctors made in their work station. Nurses also reported that the system allowed for more accessible and clear records and that, in principle, this would provide legal advantages and, certainly, easy invoicing. Automatic water balance calculation in patients was also highlighted by the respondents.

While the "auto-insertion" of text in daily records was reported as an advantage of the system, the main negative results pointed out that respondents who usually used pre-written or recycled texts (a model similar to the "copy-paste" function in word processors) repeated the evolution of patients in prior days, resulting in stereotyped and uniform reports. When asked, respondents acknowledged that they were more careful and original in handwritten reports. Somehow, homogeneous texts in electronic records reduce the richness of personalized texts. The method of "cloning a text" is appealing, because it is faster and efficient, as recognized by respondents. However, reusing an old text in new reports reduces the clinical value of observations. Handwriting on paper is often faster, more natural and ubiquitous; on the contrary, accessing a computer terminal to take down notes on patients' progress is slower and requires a different attention span, even though the access can be done in the patient's room. That was the respondents' general opinion in those used to take down handwritten notes to later add them in the electronic record. A major advantage mentioned by respondents was that uniformity in electronic records eliminated the difficulty of deciphering their colleagues' handwriting.

As other authors pointed out, computers can compete with patients for professional attention, affect-

ing their capacity for communication and relationship with the patient. (3) A study by Rouf et al. (4) analyzed the impression of patients that were attended by doctors using computers for medical records. Those patients referred that computers had adversely affected the amount of time doctors dedicated to talk and examination. In another study, primary care physicians spent 25-55% of consultation time looking at the computer screen. (5) When nurses from our study were asked whether the new electronic record system affected time and quality of care dedicated to patients, most of them answered positively. As referred by these nurses, electronic medical records took more time for those inexperienced with automation, and "put them away" from their patients despite working with a portable terminal. In short, automation can lead to less focused and personalized attention to patients. Paying attention to the computer and the patient at the same time requires multitasking, which is opposed to attentive presence. (3) In general, nurses are resistant to automation, seeing computerized health information systems as dehumanizing. Only nurses with more computer experience, together with younger and less experienced nurses, tend to have more positive attitudes to automation. (6)

Computerized information systems typically offer a relatively inflexible interface to browse the records. While searching through a paper record to get an idea of the previous evolution of the patient is faster and more convenient; searching in an electronic record can be more cumbersome. Respondents referred that the electronic record "was not useful to get a glance at the record sheet" because all the information does not appear on the same screen. Furthermore, there are too many data fields that are often left empty or filled in under special and uncommon clinical situations. These redundant fields make reading slower. Another respondent opinion refers that too much time is spent inputting data into the system when working with critical patients, who require interruption of the task to the point of sacrificing documentation on many occasions. Thus, nurses reported that many of the changes patients undergo during an emergency are not uploaded in the system, but could easily be taken down in paper records.

Finally, the disadvantages arising from "system crash" or speed issues could be technically corrected. However, a particular situation arises in the critical area when there is a delay since the medical prescription is uploaded until it appears in the pharmacy system, and the pharmacy does not supply the medication until the request becomes effective on their screen. This was reported as a common problem in emergency situations requiring immediate treatment management.

In summary, expected benefits of automation are obvious and do not require formal testing. However, regarding safety and effectiveness evaluation, clinical computerization should be subject to the same requirements as the pharmaceutical industry, with promotion as a large-scale priority. In particular, marketed computerized systems seem to assume some conditions on medical practice that are not always exact or applicable in different working contexts. In some surveys for the nursing staff, more than half of respondents considered that electronic medical record systems were not fully integrated to their daily work flow. (7) Ultimately, the human factor again plays a key role in determining the usefulness and final adoption of automated medical records. The paradox is that while the use of those new eHealth technologies are imposed, there is still little –or modest– empirical clinical evidence on their benefits. (2) Modern enthusiasm for information technologies should not affect the unbiased analysis of the possible negative effects of automation on medical health care.

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