are at higher risk for adverse outcomes following surgical repair of femoral pseudoaneurysm after cardiac catheterization. The explanation for the increased risk in most elderly patients may be related to age related changes in the arterial wall associated, mediated by increasing calcification and loss of elastin [14]. Careful monitoring of physical findings and ultrasound examination is recommended in these patients to offer early non-invasive treatment procedures as ultrasound-guided compression or thrombin injection. The radial approach offers a safer alternative to femoral access in selected patients.

Our study has several limitations. One limitation is the fact that this study is a post-hoc analysis on a prospectively compiled database. Another limitation is the use of different surgical techniques in this study. Additionally, our study has a relatively low prevalence of diabetes (13%) and follow-up time is low (30 days). Furthermore, the population constitutes a select group of patients who could not undergo percutaneous repair of the pseudoaneurysms and were therefore relegated to surgery. In spite of these limitations, our findings, which were obtained in a large number of consecutive, unselected patients, provide sufficient support for our conclusions.

The technical procedure of cardiac catheterization by femoral route takes time, in accordance with a learning curve to attain a pre-defined level of proficiency [15, 16]. The finding of a maximum incidence of pseudoaneurysms postcatheterization in the summer vacation period, urges thoughtful search of possible justifications. A possible reason for this finding is the fact that it is a specialized multidisciplinary technique. Previous to the puncture, norms of asepsis and antiseptics are required to maintain to prevent infection; especially when devices for percutaneous suture are implanted. Post-procedurally, an adequate compression as well as of the patient are important factors.

In our opinion, these multiple factors that affect the integrity of the femoral vessels after a catheterization exist, making this procedure a multidisciplinary technique with a steep learning curve. Periodic review of these complications may help identify additional factors that can be modified to reduce them.

In conclusion, female gender, increasing age and anticoagulant or antiplatelet therapy, have an adverse influence on the 30-day morbidity and complications of patients submitted to surgical repair of femoral pseudoaneurysms after cardiac catheterization. Additional studies will be needed to expand the existing literature and thus improve the perioperative management of the affected population.

References


eComment: Follow-up for femoral pseudoaneurysms

Author: Narcis Hudorovic, Department for Cardiovascular Surgery, University Hospital Sestre Milosrdnice, Zagreb, Croatia
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I really appreciate the fascinating article by San Norberto Garcia and co-workers [1]. The authors stated that there is a maximum incidence of femoral pseudoaneurysms post cardiac catheterization in the summer vacation period, and that this finding urges thoughtful search of possible justifications.

When we started to investigate satisfaction between cardiovascular surgeons and co-operating cardiologists in order to define the most frequent postcatheterization complications needing surgical repair in the aim to implement a quality management system according to EN ISO 9001:2000 [2] at the University Clinic Cardiovascular Department (UCCD) in 2004 [3], 1410 follow-up consultations of postcatheterization patients took place over a one-year period. Our findings revealed that middle grade cardiologists dealt with 58% of the catheterizations while young specialists performed 33% of the catheterizations. When we analyzed the workload split (young specialist – middle grade professor), it was evident that the postcatheterization femoral pseudoaneurysms predominantly persisted after the procedure had been performed by young specialists.

It was notable that 96% of the catheterization procedures during the summer period at UCCD were performed by young specialists without direct supervision of middle grade specialists. Moreover, in 55 patients (4%) post-procedural investigatory procedures (DSA, CT or MR angiography) reported the presence of postcatheterization aneurysmal formation in the femoral region. In all 55 patients the catheterization were performed in the summer period by young specialists.

Our study has highlighted that follow-up protocols after cardiac catheterization need to introduce specific staff data (date of birth, years of experience, etc.) of investigators who performed cardiac catheterization. Protocols, as an aid to limiting follow-up after cardiac catheterization do exist, yet implementation appears to be only partly effective. Informed education of staff and young specialists at ward level might be one way of improving these figures: staff needs to be made aware of catheterization procedure complications and given clear guidelines as to which postprocedural data might require special attention.

By implementing postprocedural follow-up protocols which include the so-called ‘specific staff data’ (referral source, workload split), the cardiovascular community could find out the reasons why the incidence of femoral postcatheterization aneurysms is highest in the summer period.

References

