IIb/IIIa inhibitors have a greater risk of hemorrhagic complications, especially at the puncture site. In this context, an alternative suggestion is the use of vascular closing devices (VCD) to reduce the number of complications. Resnic et al[6] compared manual compression (MC) versus VCD in 3027 patients treated with angioplasty and found a 45% reduction in vascular complications with VCD. In the subgroup of patients who received glycoprotein IIb/IIIa inhibitors, complications with VCD were reduced to 57%, (5.51% with MC vs 2.34% with VCD; *P*=.02). Louvard et al[7] also found a reduction in major hemorrhages at the puncture site from 7% to 2% with VCD. Applegate et al[8] compared MC with the use of two different types of VCD in a series of 4525 patients who had undergone angioplasty and treatment with abciximab. In the patients in whom the use of such devices was successful, the rate of minor, major, and combined complications was 1.8% versus 0.8%, 1.35% versus 0.9% and 2.5% versus 1.5%, respectively. In the RACE[9] study, no femoral complications occurred in patients who underwent angioplasty and treatment with glycoprotein IIb/IIIa inhibitors using a new VCD versus 3.4% in the control group (*P*=.03). Exaire et al[10] found a low incidence of major hemorrhage and the need for transfusion (<1%) in patients from the TARGET study where either MC or various VCD were used. We emphasize that none of these studies was conducted exclusively in patients with primary angioplasty, although we consider that the main interest lies in facilitated and rescue angioplasty.

The learning curve for VCD is probably better than the one required for RAA, which means that its application can become widespread more easily. A trial comparing VCD with RAA would reveal the best strategy for patients with a high risk of presenting complications. Naturally, a cost-benefit analysis of the most suitable VCD and the impact of possible complications[11] is essential.

Finally, dogmas in medicine are dangerous and, in a field where concepts and technology are in continuous development, as in intervention cardiology, we should be very receptive and have on hand—almost literally in the case of RAA—new and better approaches and treatments to provide our patients with the best possible care.

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Prevention of Vascular Complications During Coronary Interventions: Choose a Different Access Route or Seal the Vessel?

To the Editor:

We read the article by Díaz de la Llera et al[1] with interest and would like to offer some comments. Reducing the incidence of complications during primary angioplasty, now that adjuvant therapy is widespread, is important.[2] Several studies[3-5] have reported that radial arterial access (RAA) offers interesting advantages compared to the transfemoral technique[3,4] and the authors[1] contribute further evidence in this regard. The success and the safety of RAA in trained hands is beyond question, and the clearest advantage compared to the femoral approach appears to be related to the smaller number of vascular complications.[3-5]

Patients treated with fibrinolytics and glycoprotein

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Response

To the Editor:

I would like to thank Barrera-Ramírez et al, for their interest in my article published in this Journal.[1] I appreciate their interesting observations, although I differ from the partial view regarding the use of radial arterial access (RAA) in patients with acute myocardial infarction.

The number of local complications is extremely low (hematoma, need for transfusion and vascular repair surgery) when RAA is used in practically all the centers where percutaneous coronary intervention is carried out (PCI).[1-4] Its convenience, the possibility of the patient immediately and safely walking out with no risk, and the cost-benefit ratio when using RAA compared to femoral arterial access (FAA) plus vascular closing devices (VCD) favors the use of RAA.[5,6]

Patients treated with anticoagulants, a combination of antiplatelet drugs (aspirin and clopidogrel) plus glycoprotein IIb/IIIa inhibitors and fibrinolytics are likely to present a greater number of local complications in the femoral arterial puncture site than those who do not receive such drugs. In a comparative study between RAA and FAA where both groups received glycoprotein IIb/IIIa inhibitors, Choussat et al[7] analyzed the immediate outcome and local complications in both groups. In patients assigned to FAA, percutaneous closing with sutures was carried out (37%) and mechanical compression in the remaining patients. A significant reduction in local complications in the RAA group (0%) was found compared to the number of hemorrhagic complications in the FAA group (7.4%; *P*=.04).

I would like to fine-tune certain aspects relating to the articles mentioned by Barrera-Ramírez et al to avoid ambiguous interpretations. Louvard et al[8] conducted a comparative prospective study of RAA and FAA in primary angioplasty with 1224 patients in two European hospitals. They reported a global rate of local complications in the RAA group of 0%, whereas the FAA group presented 2% major hemorrhagic complications in center A (using VCD) and 7% in center B (using manual compression). This difference was due to the low use of abciximab (5.8%) in center A and a more standardized use of it in center B (48.3%). When the patients in the RAA groups from both centers were added (n=267) to the FAA group with CVD (Perclose) (n=889), the hemorrhagic complications were significantly higher in the Perclose group compared to the RAA group (2% vs 0%; *P*<.05), despite the greater use of abciximab (30% vs 5.8%; *P*<.01) and r-tPA (23.2 vs 14.2%; *P*<.01) in the RAA group when compared to the FAA group (Perclose). Applegate et al[9] conducted an observational non-randomized study in patients treated with coronary angioplasty and abciximab where they compared manual compression (MC) with VCD (Angioseal and Perclose). Peripheral retinopathy and old age are factors associated with an increased risk of local complications. Coincidently, this study showed that local complications were more frequent in the MC group than in the VCD group. Furthermore, it is noteworthy that the only independent predictive factor of complications was a failure in the application of VCD and that patients in whom the VCD failed were excluded from the figures for minor, major, and combined complications. Resnic et al[10] retrospectively studied patients who had undergone coronary angioplasty and compared MC with VCD. They also stated that the patients assigned to MC were significantly older (*P*<.001) than those in the VCD group, and that patients in whom VCD was applied successfully had to remain in bed with strict rest for 6 h. The overall number of local complications in the subgroup that did not receive glycoprotein IIb/IIIa inhibitors was not statistically significant, with a 29% reduction (*P*=.13; MC=3.62% and VCD=5.15%) in the risk of complications. The differences were significant in the subgroup who received glycoprotein IIb/IIIa inhibitors, with a 57% reduction in risk (*P*=.002; MC=2.34% and VCD=5.51%). The authors themselves conclude that these results should be confirmed with prospective and randomized studies.

The results of 2 meta-analyses recently published are required reading to correctly assess the use of various VCD. Koreny et al[11] assessed 30 randomized studies that included 4000 patients and compared VCD with MC: they reported that the relative risk of hematoma was 1.14 (95% confidence interval [CI], 0.86-1.51; *P*=.35); bleeding 1.48 (95% CI, 0.88-2.48; *P*=.14), developing an arteriovenous fistula 0.83 (95% CI, 0.23-2.94; *P*=.77) and developing pseudoaneurysm 1.19 (95% CI, 0.75-1.88; *P*=.46). They concluded that there is no evidence that VCDs are effective and that they could even increase the risk of hematoma and pseudoaneurysm. Nikolsky et al[12] also assessed 30 studies that included 37066 patients and differentiated between diagnostic and PCI settings and several VCD (Angio-seal, Perclose and

Vasoseal). No differences were found regarding local complications between Angioseal and MC in a diagnostic setting (odds ratio [OR]=1.08; 95% CI, 0.11-10.0) or PCI (OR=0.86; CI 95%, 0.65-1.12). In the Perclose group no differences were found between the diagnostic setting (OR=1.51; 95% CI, 0.24-9.47) and the PCI setting (OR=1.21, 95% CI, 0.94-1.54), but a greater risk of local complications was found when Vasoseal was used versus MC in PCI (OR=2.25; 95% CI, 1.07-4.71). The conclusion was that in diagnostic settings local complications were similar with VCD and MC, whereas with PCI a greater risk of local complications was found when Vasoseal was used compared to MC.

Our group uses arterial access which we consider safer and more effective for patients, any of which (radial, femoral, brachial, axillary) can be selected depending on the characteristics of the diagnostic or therapeutic study to be carried out. Therefore, it is not a question of establishing a predetermined choice, but one of selecting the most suitable arterial access taking into account the needs of the patients.

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