LETTER TO THE EDITOR


We read with careful attention your letter to the Editor-in-Chief of Orthopaedics Traumatology Surgery & Research. We understand your comments, since you designed this implant whose effectiveness is challenged by a team that is independent from your group. We have several comments about your letter.

You suggest "oversights" in our article. We made every effort to analyse the outcomes objectively: thus, the patients were re-evaluated by an observer who was not involved in the surgical procedures, using appropriate tools known to perform well in this situation (IKS score, survival analysis, radiographs including stress views, and computed tomography in the event of prosthesis failure). We see no oversights in this strategy, which meets contemporary scientific requirements. We agree that our sample size was small, as you rightly point out; and the discussion section of our article draws attention to this point. The issue is whether this preliminary experience should lead us to continue using the implant. We decided it should not, as we believe the result may be a greater risk of poorer outcomes in our patients compared to those achieved with the implants used until now by our team.

You suggest that "use of the navigation system was clearly suboptimal", a criticism to which we give our full attention. Our main mistake was probably to start using the implant without previously meeting the surgeons who designed it. On the other hand, all 19 procedures were performed with the help of an Amplitude technician who had extensive experience with the navigation tool, and 16 of the 19 knees had their axes within ±3° of 180°, indicating optimal use.

You discuss each of the potential errors committed during implantation. We agree that imperfections may have occurred when performing the cuts to replace the patella. However, these imperfections cannot explain the stiffness, one of the problems reported with this implant (mean range of motion decreased from 111° to 105°, which is rather uncommon after total knee arthroplasty, and five of the 19 knees had less than 90° of flexion). Stiffness, the reason for revision in two of five cases, may be ascribable to the use of congruent polyethylene and, therefore, to the design of the prosthesis [1]. Above all, our data support those reported by Dejour et al. [2] showing that the trochlear component, for which you attempted to replicate the anatomic shape, is among the "deepest" available on the market, a term that you seem to prefer over "congruent". The considerable depth of the trochlea results in intolerance to the slightest imperfection and is among the main causes of failure in our study, which are therefore also ascribable to the design of the prosthesis.

Over 15 years ago, when we started implanting the prostheses that are still used at our centre (450 procedures annually), we did not have such a high failure rate. A similarly large number of failures would of course have prompted us to stop using the prostheses and to publish our results. We believe that good science requires the reporting of both good and poor results and that a careful analysis of failures helps to make progress. When we had a high failure rate with the Miller-Galante™ prosthesis, we wrote an article that was published in the Revue de Chirurgie Orthopédique [3]. Thereafter, this prosthesis was withdrawn from the market. More recently, we published an article in the Journal of Bone and Joint Surgery (British edition) when we were among the first to identify a high failure rate with the large-diameter metal-on-metal Durom™ hip prosthesis, which is no longer used [4].

Our article is not intended to criticise your group or the implant but is designed instead to alert the scientific and orthopaedic community about the difficulties met by our team using this prosthesis despite extensive experience with knee replacement. We do not doubt that you could submit studies to Orthopaedics Traumatology Surgery & Research

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showing better outcomes than ours. However, our findings may help to improve the recommendations issued to future users of this prosthesis.

**Disclosure of interest**

Henri Migaud and Gilles Pasquier declare that they have no conflicts of interest concerning this article but serve as occasional research and education consultants for Zimmer. Henri Migaud serves as an occasional research and education consultant for Tornier and receives royalties from Tornier. Anani Akakpo, Nicolas Fouilleron, and Grégoire Dereudre declare that they have no conflicts of interest concerning this article.

**References**


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