



## Revista Española de Cirugía Ortopédica y Traumatología

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### EDITORIAL

## Drugs for locomotor system diseases and the future of scientific societies: This decade is bringing in a new model of relationships<sup>☆</sup>

### Los medicamentos para las enfermedades del aparato locomotor y el futuro de las sociedades científicas: la década está trayendo un nuevo marco de relaciones

The publication of *The Truth About the Drug Companies* by Marcia Angell,<sup>1</sup> a former editor in chief of *The New England Journal of Medicine* (the clinical journal with the greatest impact factor), has turned pharmaceutical companies on their heads in recent years, triggering a response on the website<sup>2</sup> of PhRMA (The Pharmaceutical Research and Manufacturers of America), the association grouping them together. Nor has the scientific community remained aloof from this controversy, with the degree of scientific and ideological agreement curiously coinciding with the forum in which the members of this community expressed their opinion.<sup>3-5</sup> A scientific positioning based on ideological postulates is nothing new, however; 19th century Spain already saw how the Jaume Ferrán's discovery of the vaccine against cholera was met by positions in favour of or against its effectiveness, depending on the degree of ideological affinity between each member of the scientific community and Ferrán himself.<sup>6</sup>

Since 2004, when Marcia Angell published the first edition of her book, down to the present, countless publications by equally prestigious authors have appeared on the same issue: what the pharmaceutical industry produces as novelties is, more often than not, nothing more than *me too* drugs with small molecular changes tested not against a control group using the previous medication but a placebo; in addition, on many occasions, far from improving the population's health, they have increased morbidity.<sup>7-11</sup> The figure of 2.2 million hospital admissions in USA with 110,000 deaths due to medicine-related issues, as published in 2008,<sup>10</sup> speaks for itself. Apparently, physicians administered them because

what the industry spent on education were nothing more than undercover marketing.<sup>7,9,10,12</sup>

It is no idle chance that has made these events coincide in time with the extremely strict policies in the USA on conflict of interest and the drastic cutbacks on funding of scientific travel for physicians or with the policies in place in all western governments to reduce pharmaceutical expenditure and the emergence of new scientific societies on illnesses (when not merely simple physiological phenomena inherent to ageing) that have been fostered and popularized by the industry.<sup>11,13</sup> The same could also be said for some novelties in the implant sector.<sup>14,15</sup> In Spain, this panorama is also going to entail, in the short term, an even greater tightening of conflict of interest than that was seen in the last few years, a gradual reduction in expenditure on medicinal products, with great pressure from the Technology Assessment Agencies to in favour of efficiency-based use and, therefore, tough competition between the scientific societies for the funding provided by the pharmaceutical industry, ever smaller and more closely monitored. It is not difficult to foresee even more drastic changes in the course of the next 12 months. The obligation to prescribe generics, the renegotiation with the Farmaindustria trade association and the recent legal regulations of pharmacy outlets are just the beginning.

The strategies of the scientific societies will have to adapt to a new business model that matches funding to scientific production. The need for change is not new; the basis of the entrepreneurial economy is that everything must be constantly fluid and dynamic even in the boom years. What gives a company its leading position on a market is its competitive advantage, a concept that in economic terms is expressed as the production of the same goods more efficiently than one's competitors.

In this way, a new paradigm will emerge in the relationships with the industry, marked by independent alliances constraining economic relations, with close and restrictive

<sup>☆</sup> Please cite this article as: Guerado Parra E. Los medicamentos para las enfermedades del aparato locomotor y el futuro de las sociedades científicas: la década está trayendo un nuevo marco de relaciones. Rev esp cir ortop traumatol. 2011;55(5):331-333.

governmental scrutiny in all European countries and, particularly in those producing no or very few patents, such as Spain, forcing scientific societies to produce science on a competitive basis and the industries to seek new markets. This is already happening in the United States, for years now the American Academy of Orthopaedic Surgeons (AAOS) has adapted to this change. The same example has occurred in other areas; one clear case in point, unthinkable years ago, is that of tobacco.

The current relationship model, useful for some years, is destined to disappear and will drag down scientific societies with no competitive advantage with it. Many of the current ones in our speciality will pass on to better days while others will have to undertake a path towards convergence so as to offer a product with the highest scientific quality, as well as compete for R&D funding that will, gradually, end up being under European administration and control. Throughout the present decade we will come to see a map of societies with practically nothing in common with what we see today.

Since quality scientific production is measured, among other indicators, by articles published in indexed journals, the REVISTA ESPAÑOLA DE CIRUGÍA ORTOPÉDICA Y TRAUMATOLOGÍA (RECOT) is demonstrating its vocation to become a modern scientific forum on the international scene. A new issue is now published on the equator of 2011, a year that has seen major advances in the review's quality, such as the greater speed in the response times in the revision process, the classification of the degree of evidence in each article and the participation of Spanish-speaking societies that gather together in RECOT the important contribution of the Hispanic world to international science.

And this issue does so with a clear strategy supporting the latest and greatest in two of the basic lines of our scientific speciality. On the one hand, joint replacement using metal implants with long-term clinical follow-up and, on the other, the treatment of locomotor system diseases with drugs that interact with bone metabolism, highlighting not only their benefits but also their risks, followed by a basic research article, in this latter line, on mesenchymal stem cells (MSC) and incorporating basic research from the perspective of other specialities of biology into RECOT, such as veterinary medicine, which has throughout history provided human medicine with a rich corpus of knowledge transferable to our species.

Both articles on hip arthroplasty focus on the long-term follow-up of uncemented arthroplasties, a trend in vogue internationally, albeit without forgetting the attraction of interim cementation until the "ideal uncemented implant" is found. Porous tantalum cotyls try to make MSCs engage with the osteogenic line, penetrate the implant and facilitate its *in vivo* osseointegration. The article on these cotyls published here is an invitation to read the one on basic research setting out the introduction of magnetic resonance techniques in MSC marking to monitor cells that can be implanted in bone defects and, of course, in implants that, like those made of porous tantalum, among others, have an adequate bed to host these cells. *In vivo* Ferrous cell marking has been shown to be innocuous on growth and differentiation patterns in cell populations with respect to control groups, which facilitates the future study of the cells' behaviour in a medium such as these porous-structure metals.

This surgical view of the treatment of locomotor system diseases is followed by the use of teriparatide as a medical treatment for alterations usually requiring surgical treatment and an update review dealing, on the other hand, with the collateral effects of such drugs, in this case alendronate.

In addition to these articles there are further contributions to hip fracture, stressing not so much the mortality and morbidity of this extremely prevalent condition, but rather the modern concept of quality of life, analyzing the variables providing a functional capacity for a return to a healthy life rich in community-related values. In the same way, this issue also comprises articles dealing with current topics such as non-consolidation and poor consolidation of fractures of the humerus, the treatment of traumatic coccydynia, new techniques in the treatment of *hallux valgus*, fever of unknown origin as the debut of rhabdomyosarcoma, tendinous lesion due to enchondroma, hip amyloidosis or, with a more social projection, the health-related challenges of the current decade in the framework of Global Health.

The upcoming issues of RECOT are already being prepared and will delve deeper into the quality and currency of the papers through the combination of original articles on clinical studies and basic research, updates on subjects of interest in terms of their prevalence and case reports developing the ability, through a clinical event, to raise questions in our readers and encourage the seeking of further information in up-to-date bibliographical sources.

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