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Letters to the Editor

Reflexions on Week-ends and Holidays in Hospitals



Reflexiones sobre los fines de semana y festivos en los hospitales

Dear Editor:

It is a well-known fact that the medical care the hospitalized patients receive is not the same on weekdays as on weekends and holidays. The quality of health care on weekends has been studied with regard to emergencies and critical care in particular. In general, greater mortality, complications and length of hospital stay have been observed in patients admitted or operated on during the weekend compared to other days of the week. This is attributed to the fewer resources available as well as the more limited experience and skills of weekend staff.

A recent study gives adds new data by analyzing the differences in mortality of elective surgery performed on different days of the week. Aylin et al.¹ have studied the 30-day mortality rate of 4 133 346 patients who had undergone elective surgical procedures while hospitalized at English hospitals over the course of 3 years; they later correlated these data with the day of surgery. Emergency and ambulatory surgeries were excluded. Among their findings, they observed how the risk of mortality significantly rises over the course of the successive days of the week (Table 1). It is striking that a surgical patient has a 44% higher risk of death if surgery is performed on a Friday than on a Monday. The study is serious, and among the explanations proposed for these differences is the varying level of health care (diagnostic and therapeutic) that is provided in the immediate postoperative period at the end of the week.

The situation in Spanish hospitals may be different from that of English hospitals but, in any event, the medical care provided between 3 pm on Friday afternoons and 8 am on Monday mornings (65 h, 38.69% of the week) has always been a concern. And that is without mentioning long-weekends, holidays or vacations. We should admit that during these time periods, the resources and capabilities available are reduced. Holidays and Sundays can be particularly problematic. Barba et al., at the Hospital de Alcorcón in Madrid,² reported a higher risk of mortality in patients who had been hospitalized on the weekend. Meanwhile, we ourselves³ have brought attention to the importance of systematic hospital rounds on Sundays for early detection of clinical problems, while reducing unnecessary hospital stays and costs.

We cannot be certain whether the findings of Aylin would be reproducible in Spanish hospitals, but our intuition tells us that the answer would be 'yes'. During the 65 h that transpire after 3 pm on Fridays, the same capability for response on weekends does not exist when compared with normal working conditions. Surgical teams are probably not much of an influencing factor, as they distribute work in a cyclical timeframe, but there is a reduction in the accessibility to diagnostic procedures and intensive care support. We general surgeons are dependent on these services and responsible for surgical emergencies, and among these are the serious postoperative complications. We should be able to provide continuous, attentive care to surgical patients, which would enable us to detect and quickly treat any deviations from the

Table 1 – Mortality According to the Day of the Week of Elective Surgery (OR).

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday and Sunday
1	1.07	1.15	1.21	1.44	1.82
Source: Modified from Aylin et al. ¹ OR, odds ratio.					

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expected post-surgical course. In order to do so, we must demand the adequate means and sufficient complementary diagnostic resources of a certain quality.

With the severe economic crisis damaging the Spanish national healthcare system, it is true that the moment at hand is not precisely the best time for such demands. Thus, it is important to base our arguments on well-documented national data with sufficient statistical power to shine more light on this problem. In the meantime, it is necessary to strictly adhere to protocols and clinical pathways, progress in the sectorial organization of service portfolios and clearly regulate inter-hospital transfers and referrals.

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Hepatocyte Transplantation: Regenerative Potential and Limitations



Trasplante de hepatocitos: potencial regenerativo y limitaciones

Dear Editor,

We have read with interest the Paper published in your journal by Pareja et al.¹ about the future prospects of hepatocyte transplantation, in which they reported the results obtained in 4 children with inborn errors of metabolism and in 4 adult patients.¹

In both groups, a temporary improvement was observed in the biochemical parameters, without achieving a stable, long-lasting improvement,¹ which is why the authors reflect on the possible causes of the loss of viability of the transplanted hepatocytes as well as possible maneuvers aimed at promoting “nesting” or “engraftment” of the hepatocytes in the liver.¹ The results of Pareja et al. coincide with most of the clinical series published and contrast strikingly with experimental studies in rodents.^{2,3}

The temporary improvement and the inability to substitute the liver function is probably due to the altered proliferation of the transplanted hepatocytes, when on the other hand the evidence in rodents shows the extraordinary replicative capacity of hepatocytes to multiple stimuli.^{4,5}

Among the alternatives for improving engraftment, they mention 2 preconditioning techniques: radiation of the liver or portal embolization. These techniques induce a “liver injury” and stimulate cell division (transition of the G₀ phase until the cytokinesis of the cell cycle). In 1989, Pardee⁶ described the concept of competence acquisition by which the cells subjected to stress or mitogen factors evolve until the end of the G₀ phase of the cycle and surpass the critical point of control “R” when the cells are determined to divide irreversibly. It has been described that the isolation of the hepatocytes with collagenase represents a stimulus for them to divide more rapidly.⁷

Pareja et al., with their extensive experience in the isolation of hepatocytes, have reported that “some 70% of the hepatocytes are eliminated from the portal system” due to an inflammatory response and the overregulation of cytokines (TNF- α , IL-6).^{1,8} What is striking is that these cytokines induce the first phase of hepatocyte regeneration (hepatocyte purging or enrichment) by means of the transition of the hepatocytes of phase G₀-G₁ of the cycle.⁹

The proliferation of hepatocytes (requisite of hepatocellular transplant) is a process that is strictly regulated

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