NATIONAL SURVEY ON VITREO-RETINAL SURGERY AND THE MANAGEMENT OF RHEGMATOGENOUS RETINAL DETACHMENTS IN SPAIN. PROJECT RETINA 2

ENCUESTA NACIONAL SOBRE LA CIRUGÍA VÍTREO-RETINIANA Y LA ATENCIÓN DE LOS DESPRENDIMIENTOS DE RETINA REGMATÓGENOS EN ESPAÑA. PROYECTO RETINA 2

FERNÁNDEZ I\(^1\), ROJAS J\(^2\), PASTOR JC\(^3\), GÓMEZ-ULLA F\(^4\), PIÑERO A\(^5\)

ABSTRACT

**Purpose:** To obtain information throughout Spain on the current management of vitreo-retinal surgical diseases, the number of ophthalmologists involved in retinal surgical diseases care, and the urgent management of retinal detachments.

**Methods:** A 30 item questionnaire was sent by mail, on two separate occasions, to the heads of Ophthalmology Departments of 276 centers in Spain.

**Results:** A total response rate of 48.2% was achieved, however the answers from private centers represented only 9.4% of the total so these were excluded from the analysis. The centers most likely to respond were those in Teaching Hospitals (TH) (52.3%). Of these, 64% of hospitals responded that, in the last year, they performed pars plana vitrectomies (PPV) and 70% performed more than 100 PPVs in the year. In all, 77% of the centers that performed PPVs had also performed them urgently. A

RESUMEN

**Objetivo:** Obtener información de ámbito nacional sobre el manejo habitual de la patología quirúrgica de la retina, del número de especialistas dedicados a esta actividad y del manejo urgente de los desprendimientos de retina.

**Métodos:** Se realizaron 2 envíos postales de un cuestionario de 30 preguntas a los jefes de servicio de 276 centros oftalmológicos de toda España.

**Resultados:** Se obtuvo una tasa de respuesta global del 48,2%. Las respuestas de los centros de carácter privado fueron solo el 9,4% por lo que se eliminaron del estudio. Los centros que más respondieron fueron los docentes (HD) (52,3%) existiendo un sesgo por sobre-representación de este grupo. El 64% de los centros respondieron que, en el último año, realizaron vitrectomías por pars plana (VPP) y de ellos, el 70% practicaron más de 100 programadas. El 77% de los centros que realizan VPP las
total of 75% of hospitals indicated that they had ophthalmologists mainly dedicated to retinal diseases care, with a median of 2 specialists per center, with this representing 23% of their total staff. Retinal surgery was performed by general ophthalmologists in 11.5% of centers. Only 40.3% of hospitals audit their results (37.5% TH).

Conclusions: Despite the existence of a relatively low response rate, as well as some biases and methodological problems, data on the management of retinal surgical disease has been obtained for the first time at a national level. This data will facilitate later studies and must be taken into consideration in improving the planning and adequate management of these diseases in Spain (Arch Soc Esp Oftalmol 2006; 81: 635-640).

Key words: National survey, surgical vitreoretinal diseases, retinal detachments, retinologists, vitrectomy.

INTRODUCTION

In recent decades, ophthalmology has gone through enormous changes with the inclusion of new techniques and protocols for managing different pathologies. Said changes, which have affected many other disciplines as well, have increased the complexity of our specialty. At the same time, ophthalmologists have tended towards specialization in sub-disciplines which are not yet officially recognized in an attempt to ensure an adequate use of said new technologies and protocols (1).

One of the first «de facto» sub-disciplines is the retina specialty: many professionals present themselves as «retinologists», implying that they focus their activity on retinal pathologies. This tendency is not new but it has been key to improve our attention to the patients and to reorganize the ophthalmological urgency departments of some countries which, like Spain, have Public Health Systems (1).

However, the Spanish public health system does not recognize these sub-disciplines and, at least in official sources, there is a lack of detailed information about the activity of this area of ophthalmology, which is also the case in neighboring countries (2). Accordingly, we may assume that the attention provided to patients with retinal surgical pathologies has room for improvement. Some European countries have started to look into these issues (results referenced in the bibliography), and this review is seen as a turning point for improving the management of health resources (3-5).

The purpose of this paper is to obtain preliminary information at the national level about the amount of vitreo-retinal operations carried out every year, the number of specialists dedicated to this activity and the urgent management of retina detachments in hospitals and clinics of Spain. To this end, a survey has been developed which is partially based on another survey carried out amongst members of the Vitreo-Retina Surgeons Society of the United Kingdom in the year 2000 (3) but adapted to our environment in the sense that it’s focused on obtaining more general information about the management of vitreo-retinal surgery instead of results and complications. This survey was sent to a list of chiefs of ophthalmology services provided by a pharmaceutical supplier comprising the majority of the national health system hospitals as well as many private clinics.

This paper presents the results related to the general aspects of vitreo-retinal surgery being carried out in Spain, emphasizing the limitations of the survey.

Conclusions: A pesar de la relativa baja tasa de respuesta, la existencia de algunos sesgos y algunos problemas metodológicos, se han obtenido por primera vez datos sobre el manejo de la patología vitreo-retiniana quirúrgica a nivel nacional, que pueden facilitar estudios posteriores y que pueden ser aprovechados para mejorar la planificación de la atención oftalmológica en España.

Palabras clave: Encuesta nacional, patología vitreo-retiniana quirúrgica, desprendimientos de retina, retinólogos, vitrectomías.
SUBJECTS, MATERIAL AND METHODS

After the approval of the survey project by the research committee of the institution which coordinated the survey and by the managing body of the Spanish Ophthalmology Society, 276 ophthalmological centers of all regions of Spain were selected for the study.

A questionnaire comprising 30 questions was sent by mail in early 2005, without differentiating between the centers which reportedly performed vitreo-retinal surgery and those which did not.

Four months after the first letter and in order to enhance the response rate, a second letter was sent to the centers which had not yet responded. As of September 2005, no further responses were admitted. The data referenced in the survey are retrospective and mainly concern the previous year, that is 2004. The questions alluded to the practices, resources and infrastructure usually available as well as vitreo-retinal emergencies management. The questionnaires were self-administered and distributed on paper. The responses were entered in a database specifically developed for this end, which guaranteed the confidentiality of the respondents data.

To assess the bias of nonrespondents, the 2004 National Hospital catalogue was utilized. Data analysis was made with Excel and Statgraphics. To verify the representativeness of the sample, a proportion contrast was utilized. Associations between qualitative variables were assessed through the contingency table analysis, utilizing the Chi-squared test with Yates correction and Fisher’s statistical exact. For quantitative variables, the Kruskall-Wallis non-parametric contrast was utilized for comparing groups and Pearson’s linear correlation coefficient.

RESULTS

Response Rate

Information was received from 133 out of the 276 centers of the survey, which represents a global response of 48,2%. This rate was not uniformly distributed throughout the Spanish geography. In general, the autonomous communities with lower number of centers in the survey exhibited a higher participation (table I). The responses mainly came from teaching hospitals (TH), which had an overall participation in the final sample of 52,3%. Private centers were remarkably less participational, accounting for only 9.4 percent of responses (table II).

On the basis of the above and on the hypotheses that this type of centers behaves in a different manner than the rest, it was decided not to process their responses. On the other hand, the responses of non-
teaching hospitals and district hospitals were grouped under the heading of Non-Teaching Hospitals (NTHs). This decision was based on the similar behavior observed in these two types of centers.

Representativeness of the sample

The representativeness of the sample was verified utilizing as a source the national catalogue of health Ministry hospitals mentioned above, observing the existence of a discreet bias with more responses from THs. This type of hospital accounts for 44.2% of the Spanish and system centers against 57.8% (67/116) of the sample obtained.

General Data

From the responses about the population covered by each type of hospital, we deduced an average of about 275,000 inhabitants for each hospital, with a mean of 350,000 inhabitants for THs and 150,000 for NTHs. For NTHs, in addition, there is a mean of 10.3 ophthalmologists in each service, 13.1 for THs and 6.4 for NTHs. 75% of the centers indicated that they have a vitreo-retina specialist, with a mean of two retinologists per center (3 in THs against 1 in NTHs). These professionals represented 23% of staff.

64% of the centers (mostly THs) indicated they utilize pars plana vitrectomy (VPP), with significant differences against NTHs (Chi-square 45.64; p-value 0). 77% of centers which perform PPV admit they carry out urgent PPVs, with an average of 10 PPVs for THs and 1.5 for NTHs (Kruskal Wallis 6.83; p-value 0.0090).

Taking into account the above data in relation to the number of specialists, we calculated that in 54% of centers a vitreo-retina specialist performs over 48 programmed PPV per year, with an average of 50. The specialists in THs carry out an average of 60 PPV/year against 24 of NTH specialists (Kruskal Wallis 19.13; p-value 0).

Similarly, it has been estimated that a TH specialist performs 3.3 urgent PPV per year vis-à-vis 0.6 of NTHs (Kruskal Wallis 6.07; p-value 0.0137). 11.5% of the surveyed centers responded that general ophthalmologists carry out vitreo-retina operations, whereas 55.6% of centers indicated they refer patients with retina detachments.

69.9% of the ophthalmologists who filled in the questionnaire, in theory service chiefs, replied that they perform at present vitreo-retina surgery and 90.9% admitted having a particular interest in vitreo-retina surgery.

Finally, we must emphasize that only 40.3% of the centers indicated they audit their results, divided in 37.5% of THs and only 2.8% for NTHs.

DISCUSSION

As mentioned in the introduction, it is necessary to have sufficient data about the attention given to different pathologies for an adequate planning of health services and appropriate utilization of limited resources.

However, at this time there are no data about vitreo-retinal pathologies, which seems to be underrat-
ed because the National Health System of Spain does not officially recognize sub-specialties. In addition, in recent years it has focused its efforts exclusively on reducing the waiting lists for cataract surgery.

The public administration has not given retina pathology the importance it deserves even though it is obvious that its prevalence is increasing, among other factors by the increase of the aged population (6), the increase of diabetic population (7,8) and also due to massive cataract surgery. It has been estimated that the probability of retinal detachment is 5.5 times higher 10 years after phacoemulsification or extra-capsular surgery (9).

At any rate, ophthalmology as a profession accepted the specialization trend mainly after the popularization of vitrectomy. The Spanish Society of Retina Vitreous has consolidated itself, there are many sections of the Spanish Ophthalmology Society Congress devoted to this discipline, and above all many colleagues define themselves as retinologists. Even some private clinics have obtained a good reputation furthering a public image as specialists in retinal pathology.

In 2002 several papers were published about the management of retinal detachment in the United Kingdom (3,9,10,11), the results of which have led to significant changes in the management of this pathology by the British Health System (D. Wong, personal communication, 2005) which are generally regarded as positive.

The foregoing was the main reason for collecting information which could serve as bases for subsequent studies to improve some methodological design problems of this survey. One of its limitations is the selection of the reference population. The catalogue of public hospitals is not fully updated and the information related to vitreo-retina specialists is obviously not included. To overcome this problem, we requested a multinational ophthalmological enterprise a list of hospitals and clinics in which retina surgery is presumably carried out. Even so numerous errors were identified, leading to the decision of verifying the information with that supplied by well-known retinologists of each autonomous community, thus improving considerably the precision of the final list.

An additional problem was that the final response rate (close to 48%) is low and, as discussed above, not uniformly distributed throughout the country. However, it can be considered to be satisfactory if we consider the type of survey, because typically questionnaires sent by mail or fax have very low response rates (12). To some extent, this response rate could have improved had we implemented personal or telephone reminders, but these were not planned. In addition, there are several characteristics which should not be underestimated. One of these is the so-called «nonresponse bias» about which we have no information because no mechanism was included for determining it (13).

The other buyers, which can be partly linked to a preceding one, refers to the overestimation of the responses by THs. It may seem natural that teaching services are more agreeable to filling in questionnaires because they have an interest in the issues of the survey. In any case, some mechanisms should be foreseen for subsequent studies to reduce the influence of the aforementioned bias.

In turn, the low response rate of private centers is another shortcoming of the survey if the aim was to obtain global information. As commented above, as private centers had only a small representation in the survey (9%) it was decided to not take them into account so that data could refer more consistently to the activity of the public health system, which continues to be predominant in all autonomous communities.

Other methodological problems referred to the questionnaire, which did not go through the pilot stage and therefore some questions or concepts could have been misinterpreted. In addition, some open-ended questions gave rise to responses which are impossible to classify. On the other hand, the questionnaire did not comprise instructions, including the definition of all concepts and criteria regarded as nonstandard. In the subsequent analysis, it seems that not all centers have made the same interpretation of concepts such as «retinologist» or «being on duty».

It must be emphasized that the survey was addressed to the service chief and not the specialists in charge of the vitreo-retinal pathology even though the questionnaire was designed for the latter. However and regardless of these and other limitations, this survey constitutes the first attempt to obtain nationwide data about the management of the surgical vitreo-retinal pathology and has provided some data which seems to be of great interest.

Knowing that 23% of public hospital staff stated that they dedicated themselves to retinal pathology is important, above all, if we take into account the
low degree of priority given to retinal diseases by
the public administration.

We have observed a relative proliferation of cen-
ters performing vitrectomy, and this dispersion
influences the number of operations carried out by
each specialist every year. There doesn’t seem to be
an optimal number, but 43 PPVs programmed each
year, 24 PPVs programmed per year for each spe-
cialist or 1.5 urgent annual PPVs in NTHs do not
seem like adequate numbers for ensuring accept-
able results for a surgical procedure with a high
learning curve in which the surgeon’s experience
and that of the medical team is usually decisive (1).

However, a new survey is being planned, aimed
at obtaining information about anatomic and func-
tional results and complications, which we hope
will serve to verify the above assumptions.

In summary, this paper presents the initial data of
the activity being carried out in vitreo-retinal
pathologies at the national level, at a time when the
health system has been divided in 17 subsystems in
which the so-called European convergence process
may allow for the recognition of subspecialties.

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