TRAINING AND CLINICAL ACTIVITY OF SPANISH RETINOLOGISTS: A PRELIMINARY APPROACH. RETINA 2 PROJECT. DESCRIPTIVE ANALYSIS

FORMACIÓN Y ACTIVIDAD CLÍNICA DE LOS RETINÓLOGOS EN ESPAÑA: UN PRIMER ACERCAMIENTO. PROYECTO RETINA 2. ANÁLISIS DESCRIPTIVO

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ABSTRACT

Purpose: To create a database of Spanish ophthalmologists mainly dedicated to retinal pathology care, describing their training period characteristics and their daily activity (clinical and surgical).

Methods: A postal questionnaire was sent to 504 possible retinologists identified through the information supplied by the Spanish Ophthalmological Society and the Spanish Vitreous-Retina Society, with a minimum of 3 retinologists per Autonomous Region.

Results: 267 (52.9% of the sample population) responses were collected and processed. Most of the respondents had started their residency after 1980 (82.4%). Ninety-four percent had received specific training in retinal pathology, mostly during the resi-

RESUMEN

Objetivo: Obtener un listado de oftalmólogos españoles dedicados a la patología retiniana y describir algunas características de su formación específica y de su actividad clínica cotidiana.

Método: Se ha enviado una encuesta por correo postal a 504 probables retinólogos identificados a partir de la información proporcionada por las Sociedades Española de Oftalmología y de Retina y Vítreo y un conjunto mínimo de tres retinólogos de cada Comunidad Autónoma.

Resultados: Se han obtenido 267 respuestas (52,9% de la población). El 83% obtuvo su especialidad después de 1980. El 94% ha recibido formación específica, sobre todo durante la residencia (82,1%) y de compañeros más expertos (67,7%). La

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dency period (82.1%) and from more experienced colleagues (62.9%). Official fellowships were held in a minority of cases (around 12%). Twelve percent of retinologists performed retinal surgery only, 14.6% performed anterior segment surgery, and 60.7% performed both types of surgery.
Conclusions: Despite not having taken into consideration non-response bias, this study provides the first reported data on the professional profile of Spanish retinologists *(Arch Soc Esp Oftalmol 2009; 84: 75-84).*

Key words: Questionnaire, surgical vitreoretinal diseases, retinal detachments, retinologist, vitrectomy.

realización de masteres oficiales es muy minoritaria (solo un 16,7% tienen al menos un master).
El 12% se dedica en exclusiva a la patología quirúrgica, el 24,7% a la médica y el 62,9% combinan ambas actividades. Un 22,5% opera patología retiniana, un 14,6% realiza cirugía del segmento anterior y un 60,7% combina ambas.
Conclusiones: A pesar de no haberse tenido en cuenta el sesgo de la no repuesta, se dispone de los primeros datos sobre el perfil y la actividad de los denominados retinólogos, en España.

Palabras clave: Encuesta, patología vítreo-retiniana quirúrgica, desprendimientos de retina, retinólogos, vitrectomías.

INTRODUCTION

In the past few years there has been an obvious tendency towards sub-specialization among ophthalmologists, motivated either by compliance with current regulations or simply because certain ophthalmologists focus their activity on specific pathologies which, due to their prevalence or complexity, justify such specialization. Consequently, these experts have ceased to treat, in part or as a whole, other ocular pathologies. In an attempt to adjust medical resources to the actualreal needs of society, certain countries have analyzed this phenomenon for over 15 years (1-4).

One of the most widely recognized ophthalmologic subspecialties is that of specialists dealing preferably with retinal pathologies whether as retinologists, retinal specialists (medical or surgical) or vitreoretinal surgeons.

But for the time being, similarly to other Ophthalmology areas in Spain, their training of these specialties has not been regulated yet, nor is it recognized under the National Healthcare System, although both in private and public hospitals and/or clinics there is an increasing demand for jobs fitting such profiles.

On the other hand, there is no public database in place to help locate such specialists in order to gain some insight on professional issues, since membership in nationwide scientific societies does not require evidence of professional activity in the field. The alternative could be the databases provided by pharmaceutical companies or surgical material suppliers which, unfortunately, are not as exhaustive as expected.

In the past four years, quality standards have been developed for different treatments of common retinal pathologies, such as retinal detachment, mimicking following those adopted in neighboring countries, although in this case adjusted to social reality (5-9.) Such standards, once approved by the corresponding scientific societies, may be used by specialists as a reference and possibly contribute to enhanced quality in ophthalmologic care.

However, the already mentioned absence of a reliable list of retinologists has hindered the attainment of this goal, which may also prove to be very useful to address legal matters.

As a preliminary step, the present research basically sought to identify the largest possible number of Spanish ophthalmologists treating retinal pathologies and to obtain the data needed to draw up a specific training profile in vitreoretinal pathology as well as certain characteristics of their daily clinical activity.

SUBJECTS, MATERIAL AND METHODOLOGY

After obtaining Once the appropriate authorization from the Steering Board at the Spanish Ophthalmological Society and the Spanish Vitreous-Retina Society was obtained, the corresponding member lists were retrieved for both societies. The listings were cross-referenced and, together with IOBA retinologists, three ophthalmologists were identified for each Autonomous Region whose professional activity was clearly linked to theat of specialists in retinal pathology specialty.

The sSaid experts received the list of ophthalmologists practicing medicine in their Autonomous Region and belonging to the above societies so they could identify those colleagues who, based on their criteria, devoted a large part of their clinical activity to retinal pathology care. They were also asked to fill in any names missing on the list.

Using the information thus obtained, a database was created including 504 retinal specialists.

A postal questionnaire containing 29 questions was submitted to these specialists at the end of 2006 and first half of 2007 (fig. 1).

The survey underwent a pilot stage involving a group of expert retinologists attending a restricted scientific meeting.

Asides from the postal questionnaire, the survey was handed to all those who had not had the chance been able to fill it out previously during the 2007 annual conference held by the Spanish Vitreous-Retina Society.

FINDINGS

Responses were collected from 267 ophthalmologists, representing 52.9% of the identified ophthalmologists.

83.8% worked in hospitals (62.4% in teaching hospitals) and barely 10.9% in private non-teaching institutions.

The estimated median population covered by the hospitals employing these specialists ranged from 400,001 to 500,000 inhabitants; mode amounted to more than 500,001 inhabitants per hospital, followed by coverage ranging from 200,001 to 300,000 inhabitants.

At the Ophthalmology services where they were employed there was a median of 13 ophthalmologists, of which a median of 3 focused on retinal pathologies.

Eighty-three percentpercent (83%) underwent specialty training after 1980. Ninety-four percent (94%) received specific training in vitreous-retinal pathologies. Training features details are shown in table I.

As for their current occupation, 92.1% kept specialized practices. Twelve percent (12%) focused solely on surgical pathologies; 24.7% on medical pathologies; and 62.9% combined both activities.

On average, visits to specialist doctors per week were 2.65 (median and mode 2.) The number of new weekly patients was 10 (median), carrying out 30 check-ups per week (median).

With respect to the management of retinal detachments, question no. 13 was designed in an attempt to find out how many experts perform such surgical procedures. Eighty-two percent percent performed this procedure in person and 17.8% referred patients to more experienced colleagues.

Questions 14, 15 and 16 were related to certain aspects of surgical activity, the most relevant findings being: 71.9% were capable of treating retinal detachments via scleral surgery without vitrectomy and 9.5% did not perform retinal surgery.

Currently, 78.8% performed pars plana vitrectomies. The average yearly value for vitrectomies was 117.29 (median 80, minimum 6 and maximum 650).

In addition, 83.9% administered on average 3.6 intravitreous injections per week (median and mode, 2; minimum 1 and maximum 20.) It is worth mentioning that 8.3% did not administer these injections but did prescribe 1.7 per week on average (mode 1, maximum 4.)

56.8% administered on average 3.85 photodynamic therapies per week (median 3, mode 1, maximum 28.) And 49% prescribed 1.78 per week on average, although did not administer them (median 3, mode 1, maximum 10).

74.2% of respondents performed 8.09 fluorescein and/or indocyanine green angiographies per week on average (median 6, mode 4, minimum 1, maximum 120).

Table I. Retinologist training. Responses are not considered exclusive

Training	Frequency of responses	Valid percentage	Average duration of training period in months	Most frequent duration of training periods (mode)
Residency	206	82.1	11.6	12
Master in medical retina	33	13.1	10.5	12
Master in surgical retina	28	11.2	9.1	12
Non-regulated retina training	103	41	5.34	3
From more experienced colleagues	170	67.7	19.61	12

1. Describe the characteristics of the Unit where you work most days of the week:
   - ☐ Teaching hospital training ophthalmology residents (TH)
   - ☐ Non-teaching hospital (NTH)
   - ☐ Private teaching institution (PTI) (training ophthalmology residents)
   - ☐ Private non-teaching institution (PNTI)

2. If you work at a TH or NTH, what population is covered? (approximately)
   - ☐ Less than 50 000 inhabitants
   - ☐ Between 50 000 and 100 000 inhabitants
   - ☐ Between 100 001 and 200 000 inhabitants
   - ☐ Between 200 001 and 300 000 inhabitants
   - ☐ Between 300 001 and 400 000 inhabitants
   - ☐ Between 400 001 and 500 000 inhabitants
   - ☐ More than 500 000 inhabitants
   - ☐ Unknown

3. Provide the number of ophthalmologists on staff and/or hired at your hospital / institution:

4. Provide the number of ophthalmologists mainly dedicated to retinal pathology at your hospital / institution:

5. When did you obtain your specialist degree in Ophthalmology?
   - ☐ Before 1980
   - ☐ After 1980

6. Have you received any specific retinal training?
   - ☐ YES
   - ☐ NO

7. If yes, please check the type of training received. Next to the answers checked, provide the duration of each training period.
   - ☐ Residency. Duration (in months)
   - ☐ I obtained a Master's degree in Medical Retina in Spain or abroad. Duration (in months)
   - ☐ I obtained a Master's degree in Retinal Surgery in Spain or abroad. Duration (in months)
   - ☐ I have received retinal training (practicum / visits in foreign hospitals). Duration (in months)
   - ☐ I learnt from more experienced colleagues. Duration (in months)

8. What is your main professional activity?
   - ☐ Medical Retina
   - ☐ Surgical Retina
   - ☐ Boths
   - ☐ Other

Fig. 1: Survey performed.

9. Do you offer specialized retina consultations every week?
   - ☐ YES
   - ☐ NO

10. If yes, how many times per week?
    ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

11. If yes, how many new patients and retina check-ups do you perform per week (approximately)?
    New: _____ Check-ups: _____

12. Which surgical procedures do you perform more frequently?
    - ☐ Retina
    - ☐ Anterior segment
    - ☐ Both
    - ☐ None of the above

13. When a patient requires retinal detachment surgery, what do you do if surgical rooms and/or staff are available?
    - ☐ I would perform surgery myself
    - ☐ I would refer him/her to a more experienced colleague in the field

14. Do you treat retinal detachments with scleral surgery without vitrectomy?
    - ☐ YES
    - ☐ NO

15. Do you currently perform PPVs (pars plana vitrectomies)?
    - ☐ YES. How many per year? (approximately)
    - ☐ NO
    - ☐ I do not perform retinal surgery

16. If no, have you ever perform a PPV?
    - ☐ Never
    - ☐ Over 5 years ago
    - ☐ Less than 5 years ago

17. When treating retinal pathologies, do you administer intravitreous injections (triamcinolone, anti VEGF)?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

18. If no, do you prescribe these injections?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

Fig. 1: Survey performed (continued).

19. Do you perform photodynamic therapy (FDT)?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

20. If no, do you prescribe FDT?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

21. Do you personally carry out fluorescein or indocyanine green angiographies?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

22. If no, do you prescribe FAG and/or ICG?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

23. Do you administer laser therapy to patients in person?
    - ☐ YES. How many patients per week? (approximately)
    - ☐ NO

24. Do you treat patients suffering from diabetic retinopathy?
    - ☐ YES. How many per week? (approximately)
    - ☐ NO

25. Are you member of the Spanish Ophthalmological Society?
    - ☐ YES
    - ☐ NO

26. Are you member of any other Ophthalmology Association related to the Retina? If yes, please list them.

27. Do you attend regularly continuing education courses related to the retina?
    - ☐ YES
    - ☐ NO

28. In the past 2 years, have you been actively involved in scientific work related to the retina? E.g.: presented research at conferences, took part in clinical trials, published any papers in scientific magazines, etc.
    - ☐ YES
    - ☐ NO

29. In the past 2 years, have you given courses or taken part in discussion fora related to retinal issues?
    - ☐ YES
    - ☐ NO

Fig. 1: Survey performed (continued).

Table II. Type of surgical activity of retinal specialists

Intervention type	Frequency	Valid percentage
Retina	60	22.5
Anterior segment	39	14.6
Both	162	60.7
None	6	2.2

And 26.3% prescribed 8.34 per week on average but did not perform them (median 6, mode 10, maximum 40).

94.7% used laser on 7.33 patients per week on average (median 6, mode 5, minimum 1, maximum 30).

96.2% treated 13.6 diabetic patients per week on average (median and mode 10, maximum 60).

Finally, 88.8% belonged to the Spanish Ophthalmological Society, while 52.4% were members of other ophthalmological societies.

91.4% attended specialty courses, meetings and conferences on a regular basis; 66.8% had actively participated in some form of scientific research concerning the retina in the past 2 years (conferences, clinical trials, magazines, etc.) And 57.2% had given courses or taken part in retina-related discussion fora in the past 2 years.

DISCUSSION

Prior to discussing the survey findings, it is worth mentioning two significant shortcomings. On the one hand, the base list of ophthalmologists was initially obtained from scientific societies which do not represent every expert practicing medicine in Spain. On the other hand, the so-called non-response bias could not be controlled for, i.e., the profile of those who were not surveyed was not accounted for. Final results could be affected if the real actual circumstances surrounding those experts were significantly different from the data facilitated. Currently, attempts are being made at establishing the significance of such bias.

Even so, these are the first data of its kind available in Spain and their inclusion herein was deemed to be of interest.

Another drawback is that the questionnaire was only submitted via mail. Thus, sending out an additional reminder would increase the likelihood of higher response rates. However, the database of mailing addresses is not sufficiently updated and is filled with certain gaps.

The first questions in the survey refer to general information related to the institutions where they practice, and since the majority (83.8%) states to be working at public hospitals, it is useful to make sure that at least the results obtained concerning population coverage, the average number of ophthalmologists on staff per hospital and the number of ophthalmologists devoted to retinal pathologies match those obtained in a different survey submitted to the heads of service and whose results were already published in this magazine (10,11). Also worth mentioning is the fact that respondents mainly came from public teaching hospitals.

The year 1980 was chosen as the final residency date, since the current MIR system was finally implemented in Spain on this date (although its founding decree dates back to Royal Decree 2015/1978.)

Most responses (83%) were provided by ophthalmologists who had completed their residency after 1980.

Table III.

Clinical activity profile for Spanish retinologists	average	mode
Specialized weekly visits	2.65	2
New patients per week	11.47	10
Weekly checkups	40.4	30
Weekly intravitreous injections administered (83.9% of specialists)	3.85	2
Weekly intravitreous injections prescribed (8.3% of specialists)	1.7	1
Photodynamic therapies performed per week (56.8% of specialists)	3.58	1
Photodynamic therapies prescribed per week (49% of specialists)	1.79	1
Angiographies performed per week (74.2% of specialists)	8.75	4
Angiographies prescribed per week (26.2% of specialists)	7.88	10
Laser administered per week (94.4% of specialists)	7.31	5
Diabetic patients attended per week (96.2% of specialists)	13.4	10

As shown in table I, after specific rotation through the retina unit during residency (82.1%), the second specific training option was learning from more experienced colleagues (67,7%), whereas barely 10% chose specific training programs.

The table also shows that regulated training periods (residency and master degrees) were approximately 12-months long, whereas non-regulated systems (practicum experiences and learning from colleagues) varied significantly.

The Spanish scenario seems to be quite different from that in other countries such as the U.S. (12), where 64% of residents choose specific subspecialty training programs and barely 36% focus on general ophthalmology. The most popular subspecialties are retinal-vitreous (35.6%); cornea and external diseases (25.2%); glaucoma (12.6%); oculoplastics (10.4%); pediatric ophthalmology (9.6%); surgery of the anterior segment and refractive surgery (2.2%); medical retina (1.5%); ophthalmic pathology (1.5%); neuro-ophthalmology (.7%); and uveitis (.7%.)

It is worth noting that residents interested in pursuing subspecialty training wish to work for academic institutions, whereas those who opt for practicing general ophthalmology seek jobs in private practices.

With a view to developing regulated subspecialty studies in Spain, it may be useful to take into account the fact that U.S. residents who choose to subspecialize state that skill acquisition in specific fields is one of the main reasons behind such decision. Other reasons include greater prestige associated with subspecialties and the fact that sub-specialization increases their chances of finding a job (12).

Regarding daily clinical activity, the majority of Spaniards surveyed combine activities related to medical and surgical retinal pathology, while only 12% practice only retinal surgery.

When combining these answers with those shown in table II, it is obvious that the majority of ophthalmologists specializing in the retina perform surgery on the anterior segment, presumably cataracts, and just 22.5% carries out surgical procedures on the posterior segment.

These data should be taken into account when assessing all responses concerning vitrectomy. Most retinologists (78.8%) currently perform vitrectomies, the median for such surgical procedures being around 80 per year. In a previous survey (10) of heads of service, retinologists working at teaching hospitals performed 60 vitrectomies per year on average, while retinologists working at non-teaching hospitals barely performed 24.

It is also worth noting that 14.6% of ophthalmologists with retinal training only perform surgery of the anterior segment, while a similar percentage, 17.8%, refers patients with retinal detachment to more experienced colleagues.

The survey was performed by the end of 2006 and beginning of 2007, a fact that should be taken into account when assessing the responses obtained regarding photodynamic therapy and intravitreous injections. Evidently, the changes taking place in the market of intravitreous antiangiogenic drugs have drastically modified the scenario obtained from the present survey.

Table III summarizes the average clinical activity of retinologists, although once again the so-called non-response bias ought to be taken into consideration.

Finally, it is worth mentioning the considerably large number (91.4%) of retinologists who pursue continuing training in the way of attendance to seminars and conferences.

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