Menière's disease and anxiety disorders

Malattia di Menière e disturbi d'ansia

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Key words

Vertigo • Menière's disease • Panic attack disorder • Agoraphobia

Parole chiave

Vertigini • Malattia di Menière • Attacchi di panico • Agorafobia

Summary

Diagnosis of Menière's Disease is based upon the well-known labyrinthic syndrome (hypoacusia, tinnitus and dizziness) which manifests with the typical abscessual, recurrent and unforeseeable course. Many Menière patients also report panic attacks, agoraphobia and anxiety which make evaluation of labyrinthic symptoms difficult, affect the onset and maintenance of vestibular compensation and require specific treatments which are very different from those for the control of endolymphatic hydrops. In order to analyse the nature and the meaning of the association of the vestibular and psychiatric symptoms, a comparison has been made between patients presenting Menière's disease, and a group of patients with dizziness resulting from other vestibular diseases. Socio-demographic data were collected and anxiety tests were used to evaluate, the depression and phobia. An interview ad hoc was also programmed for the psychiatric diagnosis. A previous psychiatric history, age, sex, marital status as well as education appear to have a variable effect upon the onset and evolution of panic-phobic symptoms, following onset of Menière's disease. These conclusions, which require confirmation with further studies, allow early characterisation of Menière's disease patients of great predictive usefulness as far as concerns the development of psychiatric sequelae of a panic-phobic nature. This evolution is far more frequent in females being enhanced by middle age, low level of education, long-standing Menière's disease and large number of attacks of dizziness. Onset of panic-phobic attacks is more rare in males in whom the condition is associated with young age, high level of education, lack of setting up of a family nucleus with children.

Riassunto

La malattia di Menière si diagnostica in base alla ben nota sindrome labirintica (ipoacusia, acufeni, ovattamento e vertigini) che si manifesta con il tipico decorso accessuale, ricorrente ed imprevedibile. Numerosi pazienti menierici riportano altresì disturbi panici, agorafobici ed ansiosi che ostacolano la valutazione dei sintomi labirintici, interferiscono con l'instaurazione ed il mantenimento del compenso vestibolare e richiedono trattamenti specifici molto diversi da quelli per il controllo dell'idrope endolinfatico. Allo scopo di analizzare la natura ed il significato dell'associazione dei sintomi vestibolari e psichici abbiamo posto a confronto un gruppo di pazienti affetti da malattia di Menière, con un altro gruppo di pazienti con vertigine provocata da altra patologia vestibolare. Sono stati rilevati i dati socio-demografici e sono stati somministrati tests per l'ansia, la depressione e la fobia, nonchè un'intervista strutturata per la diagnosi psichiatrica. Una storia di precedenti psichiatrici, l'età, il sesso, lo stato civile e la scolarizzazione sembrano influenzare variamente la comparsa e l'evoluzione dei sintomi panico-fobici, all'indomani dell'insorgenza della malattia di Menière. Tali conclusioni, da verificare con ulteriori indagini, consentono di tipizzare precocemente le caratteristiche dei soggetti menièrici ad alto valore preditivo per lo sviluppo di sequelae psichiatriche di natura panico-fobica. Tale evoluzione è nettamente più frequente nelle donne presso le quali essa è favorita dall'età media, dalla bassa scolarizzazione, dalla lunga durata della malattia di Menière e dall'elevato numero degli attacchi di vertigine. La comparsa dei disturbi panico-fobici è più rara negli uomini nei quali appare invece associata alla giovane età, all'elevata scolarizzazione ed alla mancata costituzione di una famiglia stabile con prole.

Introduction

Terms such as anxiety, panic, agoraphobia, etc. are certainly not very familiar to the ENT specialist. Albeit, since the understanding of the present report depends upon knowledge of the exact meaning, it appears worthwhile offering a brief introduction, aimed at illustrating this aspect of the problem, outlining, at the same time, data from the literature on the association of vestibular and psychiatric symptoms.

Of the anxiety symptoms, panic attack is characterised by a repeated and unexpected attack of a sudden and unexplainable sensation of fear associated with the rapid onset of somatic symptoms such as palpitations, tachycardia, tremors, sweating, feeling of breathlessness or suffocation, chest pain, nausea, sensation of fainting, losing sense of direction and postural instability.

In addition to this pattern, the patient presents psychological symptoms such as a feeling of imminent

death, derealisation, depersonalisation, fear of losing control or of "going mad" [1].
Anxiety of waiting, irritability, hypersensitivity to corporeal stimuli and increased worry about personal health are often due to repeated panic attacks [2]. Some patients present attacks with an onset and similar characteristics but with a limited number of symptoms with respect to the nosographic codification of the DSM-IV ("Manuale Diagnostico e Statistico dei Disturbi Mentali") [3] which we used in the diagnostic work-up of psychiatric disorders.
Agoraphobia, which often follows a panic attack, refers essentially to anxiety related to finding oneself in places or situations from which it would be difficult or embarrassing to leave or in which, as already pointed out, no help would be available, should a panic attack occur. Agoraphobic fears typically concern situations such as being alone, finding oneself in the midst of a crowd or queue of people, crossing a bridge, travelling in a bus or car, etc. The patient tends to avoid these specific situations, for example by avoiding going out as much as possible, or to put up with the situation, aware of the constant fear of facing a panic attack [4].
The degree of the negative effect upon social life may vary considerably: in the more severe form, patients shut themselves up at home but are incapable of staying alone. Some face the situations that they are afraid of with courage whilst manifesting considerable and persistent fear; they rarely feel at ease except at home or with a person they trust [5].
Generally, an agoraphobic subject first presents a panic attack and then, through conditioning, becomes afraid and, thus, tends to avoid situations in which the probable onset of an attack is more likely. The greater the fear of experiencing a panic attack, the more likely the manifestation of avoidance of agoraphobia [6]. On the other hand, a panic disorder without agoraphobia is often only a transient stage destined to association with agoraphobia after a certain number of attacks [7]. Early treatment, therefore, of panic attacks, usually characterised by the absence of foreseeable triggering factors, may avoid the future development of agoraphobia [8]. Menière's disease, with the incapacitating symptoms (dizziness, loss of motor control, nausea, vomiting, inability to maintain erect posture, etc.) represents, on account of rapidity and suddenness of the attack, one of those medical conditions which is able to reproduce formal characteristics of a panic attack. The fears, embarrassment and alarm of Menière's patients appear somewhat realistic compared to similar situations related to panic attacks, which develop in other conditions. Of course, if the agoraphobic avoidance is related to Menière's disease, this should be considered as a 'reasonable' response to the risk of onset of an acute episode [9]. This does not exclude the possibility that, at times, a symptomatic condition of an agoraphobic nature may remain. In the differential diagnosis of anxiety symptoms, it is always necessary to exclude other more generalised medical situations which could be responsible for the direct physiological effect and, in this case, it is worthwhile defining the clinical pattern, again according to DSM-IV, in terms of: "Anxiety disorder due to a general medical condition"; for example, patterns of hyper- and hypothyroidism, porphyria, encephalitis, etc. [10].
As far as concerns peripheral vestibular disorders, Eagger et al. [11] observed a frequent association with psychological symptoms: panic, agoraphobia, and depression, preceding or following vestibular symptoms in 25% and 65% of cases, respectively. Furthermore, onset of psychiatric disorders leads to onset of secondary dizziness and delays recovery. Other studies have shown that subclinical alterations of the balance system may play a pathogenic role in the development of panic attacks, but, interpretations of this hypothesis, following these observations, require further confirmation [12-15]. On the other hand, an association has been reported in the literature [16] of concomitant disorders due to panic attacks and agoraphobia in patients presenting vestibular symptoms.
Moreover, it is not possible, at present, to establish the exact role played by the vestibular function in panic attacks and/or agoraphobia. Albeit, studies on the psycho-somatic and somato-psychic relationships concerning dizziness syndromes have shown not only a vestibular genesis of anxiety and panic disorders but also an effective presence of dizziness in patients presenting psychic uneasiness [17].
From a clinical viewpoint, it appears, moreover, increasingly difficult to define the exact aetiopathogenetic impact to be assigned to somatic and psychiatric factors detected in the individual cases [18]. As pointed out by Rigatelli et al. [19], it is necessary to redefine "the relationship between psychic uneasiness and dizziness disorders…according to an interactive and dynamic model which takes into consideration the overlapping and the possible enhancement of the reciprocal conditioning between the psychic sphere and the physical disorder".

Aim of the investigation

Based upon the objective evaluation of the relationships between psychiatric symptoms, prior to and/or following the onset of Menière's disease and the personal characteristics (age, sex, education, work activity, duration of Menière's disease, marital status), a comparison has been made, in the present investigation, between a group of patients with Menière's disease and a control group presenting a different vestibular dizziness disease.

The modes of adaptation to Menière's disease were investigated, focusing, in particular, on the 'dizziness' symptom related to socio-demographic characteristics of the patients and duration of disease.
An attempt was made to establish whether Menière's disease, the symptomatic crises of which display formal aspects similar to panic attacks, could evolve, as occurs in recognised panic attacks, into co-morbidity with agoraphobia.
Moreover, in those cases in which disease was found to evolve into comorbidity with agoraphobia, an attempt was made to detect socio-demographic and psychiatric aspects (previous and/or present) able to enhance or not this evolution.

Materials and methods

The study population comprised patients with Menière's disease coming to the ENT Division of a general hospital and evaluated as outpatients, inasmuch as none of these patients were hospitalised at the time of the study. Patients were consecutively selected and the diagnosis was made based upon the A.A.O.O. criteria described in 1995 [17]. Excluded from the investigation were patients presenting also neurological diseases, severe systemic diseases, alcoholism or drug addiction.
A total of 31 probands (13 male, 18 female) were taken into consideration.
A control group was also studied in that period, comprising 10 patients with dizzy syndromes due to otovestibular diseases of a different nature. Patients in the control group were submitted to the same investigations as those in the study group.
The study protocol was as follows:
1) recording of socio-demographic data such as age, education, working activity, independency from the original family, presence of family nucleus, offspring;
2) familial history, physiological conditions, previous and present diseases regarding, in particular, the duration of the disease and the number of attacks;
3) clinical and instrumental audio-vestibular assessments;
4) use of semistructured clinical interview for the DSM III-R (SCDI) to define the principal psychiatric diagnosis of the I and II axis (American Psychiatric Association 1987) [7] to detect any possible psychiatric disorders;
5) Hamilton test for depression;
6) Hamilton test for anxiety;
7) Marks-Sheehan scale for the evaluation of phobia.

Results

Male patients

A total of 13 male patients with Menière's diseases were evaluated. Of these, 9 had no psychiatric diagnosis; their socio-demographic characteristics (Table I) show that, in these patients, onset of Menière's disease occurred at middle age when a stable personali-

Table I. Characteristics (A) of 31 patients with Menière's disease, and according to sex (B).

A

Characteristics	Mean values ± SD (years)
Age	52.29±15.02
Total education	10.90±4.35
Duration of disease	6.85±6.79

B

	Females	Males
N. patients	18 (58%)	13 (42%)
Age (years)		
mean ± SD	53.61±14.38	50.46±15.67
range	26-78	22-73
Married	78%	69%
Duration of education (mean ± SD, years)	10.27±4.14	11.76±4.5
Duration of disease (mean ± SD, years)	7.53±5.88	5.92±7.8
Other previous psychiatric disease	61%	0%

Table II. Caracteristics of control group (10 patients)

Characteristics	
Age	45.8±13.5
(mean ± SD range, years)	27-68
Total education (yrs, mean ± SD)	10.4±3.8
Duration of disease (yrs, mean ± SD)	2.9±6.1
Other previous psychiatric disease	50%
Sex (females/males)	4/6

ty structure may be hypothesised (besides absence of a previous psychiatric case history), with a mid-high education and a high percentage having a family nucleus with offspring.
Four patients, i.e., 30.7% of the male population, had received a psychiatric diagnosis, according to the diagnostic codes of the DSM III-R (Table III), defined as agoraphobic syndrome in 2 with panic attacks and in 2 without. Only one of these 4 subjects had a previous history of an episode of depression prior to the onset of Menière's disease.
Compared with patients who had not received a psychiatric diagnosis, the 4 with agoraphobia had a lower age and a higher education; most of them had not set up a family nucleus and lived alone; the duration of Menière's disease and number of crises were lower.

Female patients

A total of 18 patients were evaluated and, of these, 17 (94%) had either a previous history of a psychiatric condition or concomitant with Menière's disease, whereas only one was found not to have any psychiatric symptom.
In these 17 patients, 2 groups emerge: the first (10 patients) characterised by the presence of psychiatric symptoms prior to Menière's diseases and the second (7 patients) had no psychiatric symptoms prior to the onset of labyrinthopathy. An analysis of the first group revealed two subgroups (1A and 1B).
Subgroup 1A comprised 4 patients with psychiatric symptoms prior to the onset of Menière's disease, which remained unchanged and were not associated with panic or phobic disorders following onset of labyrinthopathy. The 4 patients were characterised by middle age, long duration (7.5 years) of Menière's disease, average schooling, belonging to a stable family nucleus in half the cases.
In subgroup 1B, there were 6 patients presenting an anxious-depressive condition prior to Menière's disease which became more severe following the onset of dizzy attacks. In this subgroup, a co-morbidity was observed between agoraphobia and dizziness with a secondary deterioration in the underlying anxious-depressive symptoms (Hamilton test for anxiety and Marks-Sheehan scale for phobic avoidance showed median-high values). Patients in subgroup 1B differed on account of advanced age, mean schooling, marriage only in half the cases, a mean history of dizziness of 5 years.
The second group comprises 7 patients with no psychiatric disease prior to Menière's disease who had a diagnosis of agoraphobia without panic attacks (4 cases) or with panic attacks (3 cases). These were middle-aged women, with a mid-low education, most of whom married with offspring, with a duration of the disease which exceeded the florid phase, with numerous attacks of dizziness. These patients had developed phobic symptoms in the months following onset of dizziness episodes, with increased intensity until reaching stabilisation, thereafter remaining unchanged over time. The anxious-depressive status was confirmed by the median-high values of the Hamilton test for anxiety and for depression as well as the median-high values of phobic avoidance according to the Marks-Sheehan scale.

Control group

The control group comprised 10 subjects (6 male, 4 female) characterised according to age and mean schooling and, the majority married with offspring; only one of whom lives alone.
Duration of dizziness symptoms was somewhat brief with few symptomatic episodes. A history of anxiety or depression was recorded in half these cases. These disorders, which never followed dizziness manifestations did not show the characteristics of panic attacks or agoraphobia, in any of these cases.
In 3 patients, onset of dizziness was associated with a mild increase in anxiety symptoms, without, however, any change in the underlying symptomatic characteristics.

Conclusions

Data emerging from the present series give rise to the following consideration: Menière's disease leads, probably on account of the repetition and the severity of dizziness attacks, to psychiatric sequelae of a panic-phobic type and this evolution manifests differently as far as concerns extent and mode in the two sexes. In DSM-IV, diagnosis of a disorder due to panic attacks has precedence with respect to agoraphobia, which is classified as a subtype of the same condition, if not as a complication of panic episodes. In this respect, Klein et al. [4] hold that agoraphobia manifests following repeated panics attacks. In patients with Menière's disease, the type of recurrent episodes may lead to, as a reactive adaptation, a behavioural sequelae of an agoraphobic type.

Table III.

	Patient	Sex	Age (yrs)	Education	Marital status	Lives alone	Occupation	Off-spring	Duration Menière's disease (yrs)	N. episodes	Menière's disease stage A.A.O.O. '95	Disease		Hamilton test		Mark Sheehan grade	
												Previous	Present	Anxiety	Depression	Fear	Avoidance
1	F.O.	M	22	M sup	single	no	yes	no	4	4	1		300,21	12	8	21	3
2	F.V.	M	53	M sup	married	no	yes	yes	2	5	2		300,21	4	3	11	6
3	M.D.I.	M	58	Univ	single	yes	yes	no	9	12	3		300,22	3	2	19	3
4	V.D.G.	M	29	Univ	single	no	student	no	1	25	3		300,22	6	7	18	8
5	B.M.	M	37	M sup	married	no	yes	yes	1	30	4		N.P.P.I.	0	0	0	0
6	F.F.	M	43	M sup	married	no	yes	yes	1	4	2		N.P.P.I.	0	0	0	0
7	E.P.	M	57	M inf	married	no	yes	yes	2	2	2		N.P.P.I.	0	0	0	0
8	C.L.	M	63	Univ	married	no	yes	yes	1	10	4		N.P.P.I.	4	3	0	0
9	G.M.	M	47	M inf	married	no	yes	yes	7	30	3		N.P.P.I.	3	3	0	0
10	R.D.C.	M	36	M sup	married	no	yes	yes	3	25	2		N.P.P.I.	4	3	0	0
11	C.B.	M	67	Elem	married	no	pens	yes	2	20	2		N.P.P.I.	4	2	0	0
12	G.G.	M	71	M inf	married	no	pens	yes	31	40	4		N.P.P.I.	8	7	8	4
13	L.S.	M	73	Elem	single	yes	pens	no	8	10	1		N.P.P.I.	5	4	10	6
14	M.M.	F	31	Univ	single	no	yes	no	2	30	2	300.11	N.P.P.I.	9	7	0	0
15	I.G.	F	69	Elem	widow	no	pens	yes	13	20	3	300.4	N.P.P.I.	14	9	10	2
16	G.G.	F	45	M sup	married	no	yes	yes	5	7	1	300.02	N.P.P.I.	4	4	0	0
17	E.D.G.	F	44	M inf	single	no	yes	no	10	6	2	296 2	N.P.P.I.	11	7	0	0
18	M.D.A.	F	56	Elem	married	no	pens	yes	10	20	2	296.3	300.22	20	17	16	6
19	E.L.	F	45	M sup	married	no	yes	yes	0.08	4	2	300.02	300.21	19	21	39	12
20	A.P.	F	54	M sup	single	yes	yes	no	4	15	3	296.3	300.21	27	27	44	14
21	D.D.	F	59	M sup	sep/div	yes	yes	no	1	4	2	300.02	300.22	13	7	48	16
22	G.G.	F	56	M sup	married	no	yes	yes	0.5	3	3	300.4	300.22	9	8	31	13
23	M.D.A.	F	56	Elem	married	no	hsewife	yes	5	10	3	300.4	300.22	15	18	20	10
24	M.A.B.	F	68	Elem	sep/div	no	pens	yes	9	23	4		300.21	20	14	67	23
25	B.R.	F	78	Elem	married	no	pens	yes	1	10	3		300.21	8	8	28	12
26	M.T.	F	60	Elem	widow	no	pens	yes	15	25	1		300.22	9	9	22	8
27	E.A.	F	28	M sup	single	no	yes	no	7	40	2		300.21	4	3	10	10
28	G.R.	F	26	M sup	married	no	yes	no	2.5	25	4		300.22	7	5	36	14
29	A.M.T.	F	57	M sup	married	no	yes	yes	0.16	4	3		300.22	4	2	35	8
30	L.M.S.	F	60	M inf	married	no	pens	yes	10	30	3		300.22	8	9	28	13
31	S.T.	F	73	M sup	married	no	hsewife	yes	12	8	4		N.P.P.I.	0	0	0	0
	Controls (Patients with labyrinthopathy with not of Meniere's disease origin)																
32	G.B.	M	45	Elem	married	no	yes	yes	0.5	6		300.02	300.02	15	10	10	5
33	A.D.P.	F	68	M sup	single	yes	pens	yes	3	40		296.2	N.P.P.I.	6	4	0	0
34	R.S.	F	42	M sup	married	no	yes	yes	1	8		300.4	N.P.P.I.	6	4	0	0
35	A.F.	F	32	M inf	sep/div	no	yes	yes	0.5	3			N.P.P.I.	6	4	0	0
36	C.F.	M	36	Univ	married	no	yes	yes	0.08	1		300.3	300.3	9	11	20	8
37	E.L.	F	64	Elem	married	no	hsewife	yes	4	40		300.02	300.02	15	8	8	4
38	R.C.	M	27	M sup	single	no	yes	no	0.02	2			N.P.P.I.	6	4	0	0
39	G.C.	M	51	M inf	married	no	yes	yes	0.02	1			N.P.P.I.	0	0	0	0
40	M.M.	M	55	M inf	married	no	yes	yes	20	3			N.P.P.I.	0	0	0	0
41	G.L.R.	M	38	M sup	single	no	yes	no	0.02	1			N.P.P.I.	0	0	0	0

Legend: Education (Italian system) – Elem: elementary; M inf: lower middle/high school; M sup: upper middle/high school; Univ: University.
Marital status – sep/div: separated/divorced; Occupation – hsewife: housewife, pens: pensioner; Previous and current diseases: DSM IV

In the present series, male patients were less likely to develop these symptoms following onset of labyrinthopathy. All male patients were or had been engaged in regular work activity; those who had presented panic-phobic symptoms (4/13) appeared to be characterised by younger age, a high education, had not set up a family nucleus and lived alone. Furthermore, compared to male patients not presenting psychiatric symptoms, they had presented an overall shorter duration of Menière's disease and fewer critical episodes. These factors, therefore, appear to lack a "protective" function compared to the symptomatic sequelae of an anxious type.

Female subjects presented anxious-depressive patterns in 17/18 cases. Like the male patients, they either worked or had previously worked. The 17 patients can be subdivided into 2 groups according to the onset of psychiatric symptoms before or after the manifestation of Menière's disease.

In the first group, comprising 10 patients, in which psychiatric symptoms preceded cochleo-vestibular symptoms, only 6 presented deterioration in the concomitant panic-phobic disorder; these patients were characterised by advanced age and late onset of the labyrinth disease. In these cases, the duration of Menière's disease was shorter and they presented fewer critical episodes than the patients not presenting co-morbidity. In the remaining 4, psychiatric symptoms were unchanged despite dizziness attacks. These patients were middle-aged, with average levels of education. Despite variability in marital status, none of the patients lived alone; furthermore, almost all had children. Mean duration of Menière's disease and the number of episodes were, however, greater than in the group with panic-phobic sequelae.

In the second group, in which psychiatric symptoms followed symptoms of Menière's disease, panic-phobic attacks, once they had begun, did not regress and led to stable patterns with marked intensity of symptoms. Associated with this evolution, observed in 7/7 cases, were the following factors: middle age, little education, setting up of a family nucleus with offspring, prolonged duration of Menière's disease associated with a larger number of critical episodes than in the previous group.

These data, which need to be confirmed with further studies, allow us to define the characteristics of Menière's disease patients predictive of the development of psychiatric sequelae and to make timely decisions concerning the appropriate pharmaceutical as well as psychological management. In this regard, it is worthwhile mentioning the good results obtained following treatment in some patients not belonging to the present study population. We found an excellent clinical response with the use of Paroxetine, an antidepressant belonging to the family of "inhibitors of serotonin re-uptake". On average, the following observations were made "a reduction in anxiety and depression symptoms, decrease in behavioural pattern regarding the phobic avoidance with an increase in autonomy of the patients who showed, moreover, a subjective improvement in the dizziness symptoms and tolerance to tinnitus, whereas hypoacusia remained unchanged. At a dose of 20 mg/die of paroxetine, the clinical response occurred after a mean period of 2-3 weeks, with negligible side-effects".

In conclusion, our findings show that female patients present a higher incidence than males as far as concerns panic-phobic attacks following the onset of Menière's disease. Contributing to this evolution are: middle age, low level of education, prolonged duration of labyrinthopathy and the larger number of critical episodes. For males, the evolution of panic-phobic attacks is favoured by the high levels of education, young age and by not having set up a stable family life with offspring.

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