

ACOUSTIC NEUROMA REVEALED BY VERTIGO: A CASE REPORT

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Abstract:-

Objectif: Describe the different unusual clinical presentation of the acoustic neuroma.

Material and method: We report the case of a 51-year-old man who presented with a acoustic neurinoma revealed by vertigo.

Clinical case: Mr. Z.M presented progressively the instalation of an intense rotational non-positional vertigo, without concept of tinnitusthe, the evolution may show a deafness of transmission, discordant with the attack cochlear rethearing .The vestibular test results showed a left vestibular deficit with a right preponderance. And the MRI finally objectified an Acoustic Neuroma (NA).

Conclusion: The unforeseen development of the NA should make evoke in certain forms of rotary vertigo, even without obvious otological signs, a hypothesis of retro cochlear involvement, in locurance an acoustic neuroma. Vestibular tests can be a means of evaluating the evolution of the size of these tumors.

Key words:- Acoustic Neuroma; Vertigo; Postural Balance; Posturography.

INTRODUCTON:

Acoustic nerve neuromas (NA) are benign tumors that develop at the expense of Schwann cells from the VIII th cranial pair (vestibular cochlear nerve).

They are most often revealed by a symptomatology dominated by auditory manifestations such as hearing loss and tinnitus while the vestibular symptomatology, in this case vertigo, comes in the background.

The vestibular symptomatology in patients with NA can be of varying intensity, severity, and course; and may include dizziness, pitching, and sometimes postural instability [1-7].

The onset of symptoms is variable, since central compensation can mask the development of slow peripheral vestibular dysfunction in parallel with the slow growth of tumors. A progressive alteration in vestibular function ultimately leads to postural instability, which has a significant impact on the quality of life of patients [8,9].

CASE REPORT:

It is about Mr Z.M 51 years old, without particular pathological antecedents, who presented progressively the instalation of an intense rotational non-positional vertigo, without concept of tinnitus, the evolution may show a deafness, discordant with the attack cochlear retrehearing, which motivated his consultation to emergencies.

The initial otoscopic examination was normal with healthy eardrums, the cochlear vestibular exam showed enlargement of the support polygon, Roomberg's tests, FUKUDA, and deviation of the indexes were negative. The blind walk test showed a right deviation with a slight balance disturbance.

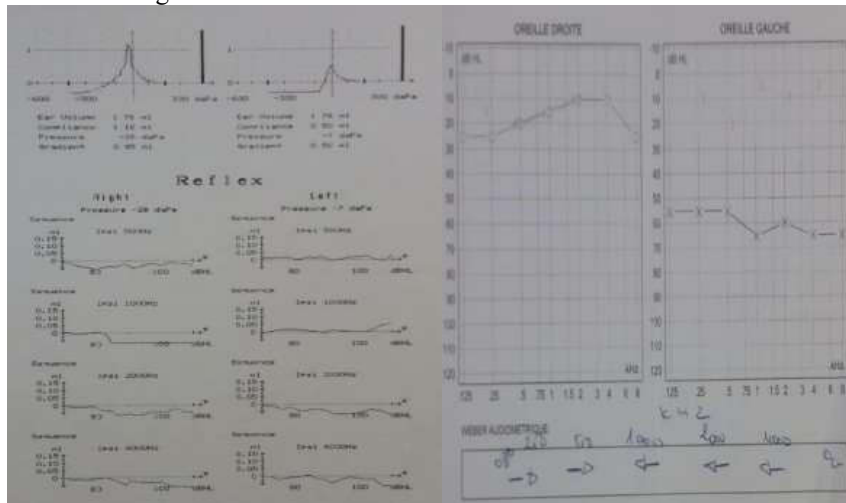


Figure 1. Normal Impedancemetry test. Figure 2. Tonal audiogram showing discordant left transmission hearing loss.

The oculomotor examination showed normal conjugation and mobilization. The Head impuls test is positive on the left side and the head shaking test positive with a right nystagmus. Video nystagmoscopy showed a right spontaneous nystagmus and a right nystagmus in the examination positions without latency.

The cranial pair examination and the rest of the neurological examination were normal. The ophthalmic examination in emergency departments showed 10 out of 10 visual acuity with normal fundus exemen. The initial video nystagmography examination showed a left vestibular deficit with a right preponderance.

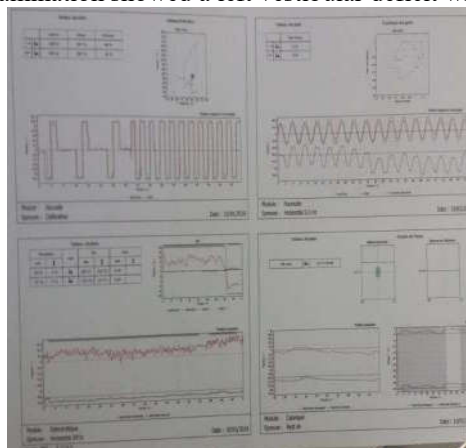


Figure 3. VNG test showing a smooth pursuit test.

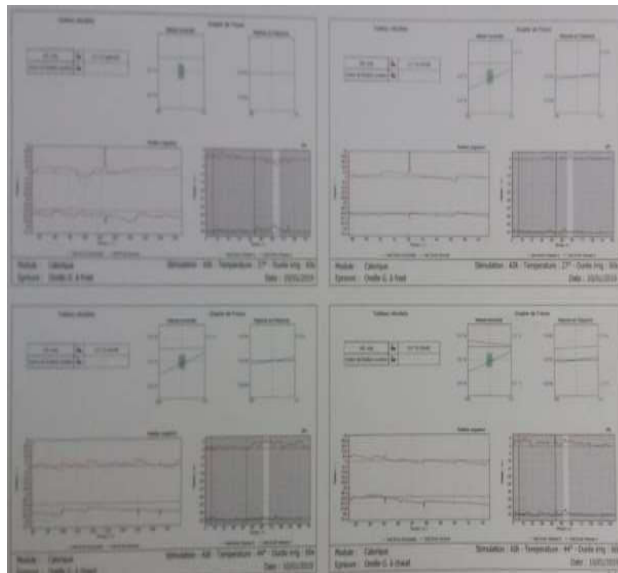


Figure 4. VNG test showing vesibular deficit on the left and preponderancy on the right.

The auditory evoked potential, motivated by the discordant transmission hearing loss, showed lengthening of the latencies of the left ear compared to the right ear depending on the space between waves III and V.

Potentils évoqués auditifs précoces

Latences (ms)

Seuil (db)	Oreille droite	Oreille gauche
I	1.72	2.11
II	2.51	3.46
III	3.86	4.07
IV	5.34	5.58
V	5.48	6.38

Intervalle

	Oreille droite	Oreille gauche
I-V	3.76	4.26
I-III	2.15	1.96
III-V	1.61	2.3

Rapport d'amplitude

	Oreille droite	Oreille gauche
I/V	0.72	0.77

Figure 6. auditory evoked potential test showing lengthening of the latencies of the left ear compared to the right ear depending on the space between waves III and V.

The MRI performed later showed a ponto cerebellar angle process in favor of a vestibular ponto cerebellar angle neuroma. The patient died in immediate postoperative, resuscitation due to haemorrhage.

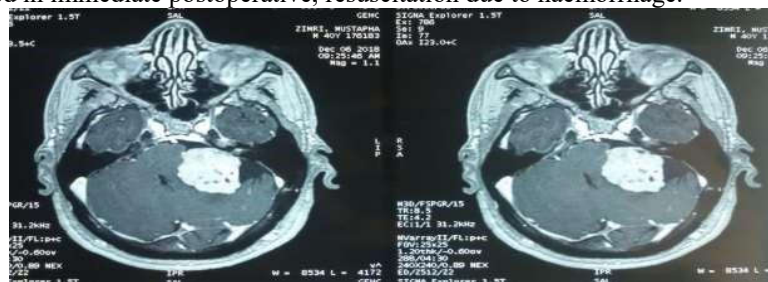


Figure 6. MRI image in axial section T2 sequence showing a NA of the cerebellar Ponto angle.

DISCUSSION:

Acoustic neuroma (NA) presents with very variable vestibular symptoms. They are by nature a very slow growing, but some patients may experience acute and severe dizziness, while others develop very subtle or definitely asymptomatic symptoms.

The acute onset of symptoms remains unknown to date, it may be due to a sudden change in the size of the tumor, such as tumor growth, intra-tumor hemorrhage or cystic change, thus compressing the vestibular nerve or the cerebellum leading to these symptoms.

The compression effect of the vestibular nerve leads to demyelination, and a decrease in microcirculation, thereby damaging neural structures. Tumor secretions cause a metabolic disturbance, causing either cochlear lesions causing hearing loss, or vestibular lesions causing their abrupt or insidious or progressive dysfunction.

Some studies have shown that the acute onset of vertigo is not related to the size of the tumor or that of the internal auditory canal or the cerebellar ponto angle because some patients have had vestibular symptoms with non-compressive neuromas. Thus a disturbance of the vestibular sensory input, due to mechanical or biochemical damage, can explain the acute attacks of vertigo [8].

Evaluation of vestibular function and posture control in NA patients is important because their prominent effect on patients' quality of life. In patients with untreated VS, vertigo symptoms negatively affected quality of life, while hearing symptoms were less damaging [22]. Also, vertigo symptoms were more associated with disability affecting VS patients' working status after treatment than hearing problems [8].

While hearing loss and facial nerve dysfunction can be measured easily, vestibular tests often require more expertise and attention. In addition, clinicians can use vestibular function tests as an indicator of the evolutionary status of the tumor size, label the affected nerve, and assess the outcome of treatment. In addition to this relevant information, the performance of patients in controlling posture should also be considered as an important indicator of their general well-being.

CONCLUSION:

The acoustic neuroma is most often revealed by an auditory symptomatology, while the vestibular symptomatology comes last. In its compressive form, it constitutes a real management challenge and requires a multidisciplinary team in order to achieve a conservative result.

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