SESSION
The Instrumental Diagnosis of Endolymphatic Hydrops

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HYDROPS CONSTATATION
(Tsutomu Nakashima, 2016)

- Other conditions might be associated with vertigo and/or hearing loss. These conditions should be taken into account in the differential diagnosis of Meniere's disease.
- Large vestibular aqueduct syndrome
- Superior canal dehiscence syndrome
- Low cerebrospinal fluid pressure syndrome
- Perilymphatic fistula
- Idiopathic sudden sensorineural hearing loss
- Acute low-tone sensorineural hearing loss
- Delayed endolymphatic hydrops
- Otosyphilis
- Otosclerosis
- Vestibular migraine
- Hearing loss or vertigo in immune-mediated diseases
- Post-traumatic vertigo and dizziness
- Vestibular schwannoma

Menière’s Disease Definition AAO HNS 1995; 2015

1995

- **Certain Meniere’s disease**
  - Definite Meniere’s disease, plus histopathological confirmation
- **Definite Meniere’s disease**
  - At least two definite spontaneous episodes of vertigo lasting at least 20 minutes
  - Audiometrically documented hearing loss on at least one occasion
  - Tinnitus or aural fullness in the treated ear
  - Other causes excluded
- **Probable Meniere’s disease**
  - One definitive episode of vertigo
  - Audiometrically documented hearing loss on at least one occasion
  - Tinnitus or aural fullness in the treated ear
  - Other causes excluded
- **Possible Meniere’s disease**
  - Episodic vertigo of the Meniere type without documented hearing loss
  - Sensorineural hearing loss, fluctuating or fixed, with disequilibrium, but without definitive episodes
  - Other causes excluded

2015

- **Definite Meniere’s disease**
  - At least two spontaneous episodes of vertigo, each lasting from 20 minutes to 12 hours
  - Audiometrically documented low-frequency to medium-frequency sensorineural hearing loss in one ear, defining the affected ear on at least one occasion before, during or after one of the episodes of vertigo
  - Fluctuating aural symptoms (hearing, tinnitus or fullness) in the affected ear
  - Not better accounted for by another vestibular diagnosis
- **Probable Meniere’s disease**
  - At least two episodes of vertigo or dizziness, each lasting from 20 minutes to 24 hours
  - Fluctuating aural symptoms (hearing, tinnitus or fullness) in the affected ear
  - Not better accounted for by another vestibular diagnosis
- Criteria proposed by the Classification Committee of the Barany Society, the Japan Society for Equilibrium Research, the European Academy of Otology and Neurotology, the Equilibrium Committee of the American Academy of Otolaryngology–Head and Neck Surgery and the Korean Balance Society
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A FEW ISSUES ABOUT ENDOLYMPHATIC HYDROPS

- Varieties of previously unexplained vertigo with recurrent atypical symptoms (unsteadiness or recurrent otolithic attacks of vertigo) have merged for which MRI and electrophysiological explorations are of great help.

- But hydrops and particularly cochlear hydrops have been described in normal subjects: post mortem temporal bones of normal patients or in MRI (artifacts or false positive results?)

- Is Hydrops a morphological observation secondary to homeostatic inner ear fluid modifications or to pressionnal endolymphatic and mechanical phenomenon, what is the place of the puddle theory reported by Salt and Plontke?

- Can MRI and Electrophysiological explorations help to discriminate in Hydrops between morphological, homeostatic modification and Pressionnal Phenomenon?

Merchant et al. Otol.Neurotol 2005
It was reported that 23% of patients diagnosed with idiopathic sudden sensorineural hearing loss actually had acute low-tone sensorineural hearing loss. Delayed endolymphatic hydrops is defined as the delayed onset of episodic vertigo following profound sensorineural hearing loss. Viral infection, such as mumps, measles or cytomegalovirus, has been reported as the cause of the preceding sensorineural hearing loss. The term recurrent peripheral vestibulopathy is synonymous with vestibular Meniere’s disease when endolymphatic hydrops is confirmed.
A FEW ISSUES ABOUT ENDOLYMPHATIC HYDROPS

• In clinical practice varieties of previously unexplained vertigo with recurrent atypical symptoms (not always rotatory vertigos but unsteadiness or recurrent otolithic attacks of vertigo) have merged for which MRI and electrophysiological explorations are of great help.

• But hydrops and particularly cochlear hydrops have been described in normal subjects (in correlation to what has been observed in post mortem temporal bones of normal patients cf eye and ear Massachusetts Boston institute papers or in correlation to MRI artifacts or false positive results?)

• Is Hydrops a morphological observation secondary to homeostatic inner ear fluid modifications or to pressionnal endolymphatic and mechanical phenomenon, what is the place of the puddle theory reported by Salt and Plontke?

• Can MRI and Electrophysiological explorations help to discriminate between Hydrops morphological modification and Pressionnal Phenomenon