Prof. Rutka opened his talk by stating that “All vertigo is dizziness, but not all dizziness is vertigo”. He elaborated that vertigo is usually described as a spinning sensation, indicative of semicircular canal dysfunction. Patients may also present with a sense of unsteadiness, disequilibrium, or rocking sensation, all of which, points to otolithic dysfunction.

There are several methods to detect inner ear disorders. Professor Rutka advised that it is important to always look in the ears. There are several tests used in the diagnosis of inner ear disorders. Of these, the Dix–Hallpike manoeuvre is considered the gold standard in the diagnosis of BPPV.¹

Current review of management for Meniere’s disease

Meniere’s disease (MD), along with BPPV and vestibular neuritis, is a common inner ear disorder.² MD is usually characterised by vertigo that lasts from minutes to hours, accompanied by hearing loss and tinnitus (Table 1).³ The 1995 American Academy of Otolaryngology-Head and Neck Surgery Committee on Hearing and Equilibrium (AAO-HNS CHE) defined MD as a syndrome of idiopathic endolymphatic hydrops that requires the presence of recurrent spontaneous episodic vertigo, hearing loss that fluctuates, tinnitus, and aural pressure.⁴

Diagnosis of MD involves a thorough history, detailing the complaints that patients are experiencing. Professor Rutka highlighted that patients may also demonstrate a low frequency hearing loss on audiometry.

Treatment of MD

Thankfully, despite the complicated diagnosis, there is a large armamentarium of treatment for MD. Conservative treatment usually consists of dietary restriction, medication (e.g., betahistine), hearing and/or labyrinthine preservation, or hearing or labyrinthine destructive procedures.

Pharmacological treatment with betahistine dihydrochloride

Betahistine dihydrochloride is a first-line choice in pharmacological treatment of MD. Professor Rutka explained that betahistine has a good safety profile and has a very good track record that spans more than 40 years. Betahistine is a histamine analogue that has been shown to be an antagonist to the H₁ receptor. Professor Rutka explained that this antagonism would result in a net H₁ and H₃ agonism as H₁ is inhibitory to H, and H₃. A major advantage that betahistine dihydrochloride has, when compared to other anti-vertigo medication, is that it has no sedative effects.⁵

Treatment flow of MD and recommendations

The treatment flow of MD can be summarised in Figure 1. This treatment plan was studied by Rath et al to analyse the clinical course and treatment flow in patients with MD, and to analyse the efficacy and side effects after intratympanic gentamicin injection (ITGM). The study found that MD can be controlled by supportive treatment or pharmacologically in 87% of definite MD patients. They also found that ITGM could control vertigo in patients with intractable MD.⁶

Endolympathic sac surgery (ESS)

The aim of ESS is to relieve the pressure that has built up in the endolymphatic sac. Initial results of ESS show 65–90% “vertigo control” rate for the first 2 years. However, at 5 years, long-term studies show that there is only between 60–70% “vertigo control”. A controversial Danish study compared placebo with active endolympathic sac decompression in a prospective, randomised, double-blind evaluation. They found that there was little difference between the placebo and surgery group post-operatively.⁷

Professor Rutka’s recommendation for medical management of MD

- Supportive treatment (during the acute attack)
  - Lifestyle and dietary change (i.e., low salt diet, avoidance of precipitants, etc.,)
  - Medical treatment trials that consist of:
    - Betahistine dihydrochloride
    - Diuretics (potassium sparing)
    - Calcium channel blockers (e.g., flunarizine, verapamil, etc.,)
    - Antifungal (e.g., nystatin, ketoconazole, etc.,)
- Also shared were some practical considerations for treatment of MD. Professor Rutka advised that medical treatment can be stopped when the symptoms have gone into remission for 6 months. When stopping treatment, the medication should be withdrawn in a tapering fashion over a period of one to two months. With regards to bilateral involvement of MD, Professor Rutka stated that generally, 5–10% of individuals have bilateral involvement in MD within 5 years of presentation. Over the patient’s lifetime, however, approximately 50% will demonstrate bilateral involvement. If there are atypical features present, stopping is usually required to exclude retrocochlear pathology.

Management of BPPV

Patients with BPPV often complain of vertigo. It has been suggested that free-floating particles in the semicircular canals deflect the cupula, thus causing a sense of vertigo. This is known as canallingis. On the other hand, cupulolithiasis occurs when the free-floating objects adhere to the cupula, causing vertigo and nystagmus that persist for a longer period of time.⁶

There are several physical manoeuvres that can be performed to correct BPPV. Some of the examples given by Professor Rutka are as listed:
- Brandt-Daroff
- Semont’s liberatory
- Particle repositioning

Surgical treatment of BPPV includes posterior semicircular canal (PSCC) occlusion. However, Professor Rutka challenged the audience with this question: “Can we safely enter the inner ear and yet preserve hearing?” A study done by Kisilevsky et al found that all patients that had undergone PSCC occlusion had immediate resolution of BPPV. However, other forms of vertigo may persist or arise subsequently (37% of the cases). Additionally, they found that a post-operative caloric reduction may also occur.⁸

Conclusion

With regards to MD, Professor Rutka felt that the existing treatments needed to be refined. However, he noted that this would only control the symptoms of MD and not reverse the disease. Additionally, basic science research is needed to determine the underlying pathophysiology of MD. With regards to systemic treatment, Prof Rutka added that to date, there is still no systemic treatment for MD that is without adverse effects. In pharmacological management, betahistine dihydrochloride is an effective medication in controlling MD and BPPV symptoms without causing drowsiness.

References:

Watch the video and find out about
Treatment for Meniere’s Disease and Benign Paroxysmal Positional Vertigo (BPPV)

Watch the video now
www.mims.asia/betaserc

This publication was made possible through a grant from
Abbott Laboratories (M) Sdn Bhd

MIMS Medical Education. The opinions expressed in this publication are not necessarily those of the editors or sponsors. Any liability or obligations for loss or damage howsoever arising from the use of this publication are not of any liability or obligations for loss or damage howsoever arising from the use of this publication are not necessarily those of the editor, publisher or sponsor. Any liability or obligation for loss or damage howsoever arising from the use of this publication is not necessarily those of the editor, publisher or sponsor.