CORRESPONDENCE

Olfactory Dysfunction: Common in Later Life and Early Warning of Neurodegenerative Disease

by Prof. Dr. med. Karl-Bernd Hüttenbrink, Prof. Dr. med. Thomas Hummel, Prof. Dr. med. Daniela Berg, Prof. Dr. med. Thomas Gasser, PD Dr. med. Antje Hähner in volume 1–2/2013

Combining Testing Methods

The authors deserve thanks for their explanation of the diagnostic value of hyposmia in neurodegenerative disorders (1). The recommendation of olfactory testing from the American Academy of Neurology, which the authors adopted, as a potential sole instrument to distinguish idiopathic Parkinson's disease (IPD) from progressive supranuclear palsy (PSP) (2) needs comment. This recommendation is based on studies that investigated a total of only 16 PSP patients with a blinded study design by using olfactory testing; only one PSP patient was studied using "Sniffin' Sticks". In this setting, guidelines for the type and extent of olfactory testing and threshold values are lacking. In our experience, the olfactory identification tests based on Sniffin' Sticks, which are commonly used in Germany's neurological hospitals, have insufficient sensitivity and specificity in differentiating PSP from IPD. Only their combination with other non-invasive testing methods, such as transcranial brain sonography and motor examination (3), is of high diagnostic value.

The authors rightly pointed out that slowly progressing olfactory dysfunction is an often unnoticed early symptom of IPD. On the other hand, 30% of IPD patients experience olfactory dysfunction as a prodromal symptom, but fewer than 5% of these report their symptoms to their doctor (our own investigation, manuscript submitted for publication). The common complete lack of perception of, or subjective lack of attention to, olfactory dysfunction may be a reason why idiopathic hyposmia or anosmia diagnosed by an otorhinolaryngologist is mostly an incidental diagnosis. Educating the wider population about the potential relevance of olfactory dysfunction in the early detection of IPD makes sense only once effective treatment methods become available that can delay the progression of IPD in its early phase.

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Conflict of interest statement

The authors declare that no conflict of interest exists.

Olfactory Hallucinations

The term "phantosmias" reflects the current guideline on olfactory dysfunction from the German Society of Oto-Rhino-Laryngology, Head and Neck Surgery, as mentioned in the review article. The definition "sensation of smells in the absence of a stimulus" is also identical with that in the S2 guideline (1), but it would also correspond to olfactory hallucinations. "Trick of the senses without external stimulus" defines hallucinations. This is of direct clinical relevance, because such symptoms may indicate further psychiatric/neurological diagnoses not mentioned in the article—especially if a patient reports these to their physician as the dominant symptom in the initial consultation (as experience has shown). So the issue is not only one of nomenclature but one of potential consequences for the planned revised edition of the ear, nose, and throat medicine guideline (1).

Olfactory hallucinations, or phantosmias, (in older people too) should prompt thoughts about further psychiatric disorders with hallucinations (mostly experienced as disagreeable, more rarely as agreeable), such as schizophrenia, depression, hallucination of one's own (unpleasant) body odor, and temporal lobe epilepsy. In—severe—depression, olfactory hallucinations (for example, in the shape of a sensation of a smell of decay) are possible, and they may also be the consequence of olfactory dysfunction (3): "Owing to these limitations many patients with olfactory dysfunction show signs of depression." But olfactory hallucinations may also occur in psychiatric disorders, independently of the presence of actual physical otolaryngological causes (for example, in the absence of an injury to the olfactory epithelium). The guideline for ear, nose, and throat medicine (1) mentions "neurological or psychiatric cause(s)" under 3.2.5. In general it seems that patients with long-term hallucinations (especially those in whom a clear somatic cause has not been identified) require psychotherapy, in close

cooperation with the treating physicians who treat the somatic symptoms in parallel.

It is worth mentioning that, on the one hand, the sense of smell is often impaired in schizophrenia, and that, on the other hand, several studies (2) have found that up to a third of schizophrenia patients suffer from olfactory hallucinations.

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Conflict of interest statement

Dr Nowack is the spokesman of the German section of the International Society for Psychosocial and Social Approaches to Psychosis (ISPS).

In Reply:

We thank our correspondents for their critical comments and remarks. We agree that studies of olfactory dysfunction in progressive supranuclear ophthalmoplegia (PSP) are based on small case numbers. However, we aimed to pass on existing recommendations in our article and to think of olfactory testing in parkinsonian syndromes as an additional diagnostic instrument. For this reason we did not separately discuss the value of combining several non-invasive testing methods in atypical parkinsonian syndromes. We can,

however, unreservedly confirm the higher specificity and sensitivity that can be achieved in this way.

It is of course entirely correct that informing the wider population about the potential relevance of olfactory dysfunction in the early detection of idiopathic Parkinson's syndrome (IPS) seems sensible only once effective treatment methods have become available to delay the progression of the IPS in its early stages. However, even now many people obtain information about the possible relevance of olfactory dysfunction through the media. For this reason we think that differentiated information for doctors is important, since they are the ones who are confronted with questions regarding the subject.

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Conflict of interest statement

Professor Hüttenbrink heads the Olfactology/Gustology Working Group of the German Society of Otorhinolaryngology, Head and Neck Surgery. The manufacturer of Sniffin' Sticks, Burghart Messtechnik, is represented at the meetings of the working group. Research using Sniffin' Sticks takes place in cooperation with Burghart.

Professor Hummel has received reimbursement of congress participation fees (e.g., MDPD) and travel costs from Teva. He has received third-party funding from Teva, Takasago, Unilever, Fragrance Resources, Primavera, Bionorica, Givaudan, and Burghart (manufacturer of Sniffin' Sticks).

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