

Reply to ‘The shift of therapeutic strategy for prolactinomas: surgery as the first-line option’



We appreciate the comments by Zhe Bao Wu on our recently published Pituitary Society Consensus Statement on diagnosis and management of prolactin-secreting pituitary adenomas (Petersenn, S. et al. Diagnosis and management of prolactin-secreting pituitary adenomas: a Pituitary Society international Consensus Statement. *Nat. Rev. Endocrinol.* **19**, 722–740 (2023)¹) in their Correspondence (Wu, Z. B. The shift of therapeutic strategy for prolactinomas: surgery as the first-line option *Nat. Rev. Endocrinol.* <https://doi.org/10.1038/s41574-024-00953-5> (2024)²). In our Consensus Statement¹, we recommended that physicians undertake a discussion of first-line surgery by an expert pituitary neurosurgeon alongside first-line medical treatment with dopamine agonists in a selected subgroup of patients.

In the Supplementary Information of our Consensus Statement (Supplementary Table 3 in ref. 1), we indeed summarized outcomes of surgical prolactinoma resection reported in recent surgical series (25 studies published 2005–2021), demonstrating a remission rate of 82% in 1,182 patients with microprolactinomas, compared with 44% in 1,412 patients with macroprolactinomas. Furthermore, we reported data on an additional 348 patients with surgical remission

rates presented according to Knosp classification (four studies published 2020–2022; Table 1). Two studies suggest better outcomes for prolactinomas of Knosp grade 0–1 than for those of Knosp grade 2–4 (refs. 3,4), whereas the remaining two indicate higher remission rates for prolactinomas of Knosp grade 0–2 than for those of Knosp grade 3–4 (refs. 5,6).

We stated that surgical remission rates for pituitary adenomas depend on adenoma invasion and are associated with Knosp grading. With the limited data available, the degree of adenoma invasion that would determine surgery as a non-inferior option versus medical treatment remains unclear. In our Consensus Statement¹, we opted for a conservative approach and limited the surgical recommendation to Knosp grade 0–1 prolactinomas, based on currently available data. Therefore, although we mostly agree with Wu, it is as yet premature to adopt surgery as equally effective as medical treatment for an even larger cohort of patients with prolactinomas (that also includes those with Knosp grade 2 prolactinomas). As we discuss in our Consensus Statement¹, patients should discuss all options with a multidisciplinary team to ensure optimal individualized treatment outcomes. Randomized clinical trials comparing first-line medical and surgical treatment, as well as

benchmark core-set reporting for all studies on pituitary surgery, are awaited⁷.

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Published online: 22 January 2024

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Acknowledgements

The authors acknowledge all the other authors of Petersenn, S. et al. Diagnosis and management of prolactin-secreting pituitary adenomas: a Pituitary Society international Consensus Statement. **19**, 722–740 *Nat. Rev. Endocrinol.* (2023), who received this correspondence before it was published.

Competing interests

The authors declare no competing interests.

Table 1 | Outcomes of recent surgical series for prolactinomas, with remission rates based on Knosp grade

Study	n	Remission rate by Knosp grade, %					All
		0	1	2	3	4	
Zielinski, et al. 2020 ³	48	95		20			79
Giese, et al. 2021 ⁴	162	81	75	38	25	9	67
Abou-Al-Shaar, et al. 2022 ⁵	78	84			59	42	65
Force, et al. 2022 ⁶	60	81	67	67	33	0	71

Data in Table 1 are originally presented in Petersenn, et al. 2023 (ref. 1).