

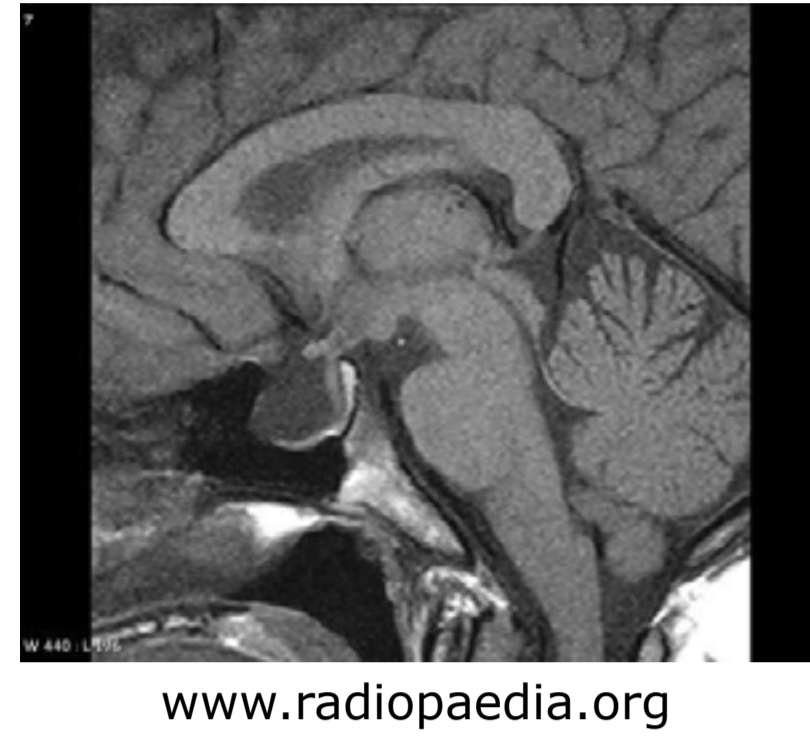


Incidental finding of "empty sella" and prevalence of endocrine disturbances - A systematic review

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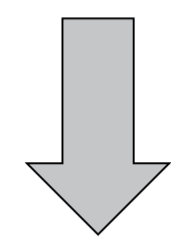
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1 Introduction & Research question



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Neuroimaging techniques have improved over the last years



"empty sella" is more often incidentally diagnosed

Is a routine neuroendocrine assessment necessary in patients with primary empty sella syndrome (PES) without clinical suspicion or history of neuroendocrine disorders?

2 Methods: Systematic literature research

1398 studies in PubMed with the search term "empty sella"

606 studies between 1995 and 2015

456 studies excluded, i.a.
• 301 case reports (n ≤ 3 patients)
• 79 pediatric patients (< 18 yrs)
• 7 studies with exclusion of PES
• 6 animal studies

150 studies with empty sella in adult patients

81 studies with secondary empty sella

69 full text studies

65 studies excluded, i.a.
• text not available in English
• no endocrine assessment
• no incidental finding

4 studies included

Fig 1. PRISMA four phase flow diagram

3 Results

Reference	Year	Country	Study design	Period	N with PES	Age	quality*
Cannavo ¹	2002	Italy	Case-Control-Study	-	43	48±12	8
Colao ²	2013	Italy	Case-Control-Study	-	94	50.1 ±9.3	10
Lupi ³	2011	Italy	Case-Control-Study	2006-2009	85 (PES), 16 (SES)	48 ±1	10
Zuhur ⁴	2014	Turkey	Prospective cohort study	2011-2012	81	49.9 ±14.5	9

*assessed with the quality appraisal tool (0 poor quality -10 high quality)

Fig. 2 Study characteristics

Reference	Year	Hypopituitarism N (estimated risk; 95% CI)
Cannavo ¹	2002	23 (0.54; 95% CI 0.39-0.68)
Colao ²	2013	64 (0.68; 95% CI 0.58-0.77)
Lupi ³	2011	42 (0.49; 95% CI 0.39-0.59)
Zuhur ⁴ partial PES	2014	7 (0.15; 95% CI 0.07-0.28)
Zuhur ⁴ complete PES	2014	23 (0.68; 95% CI 0.51-0.81)
total		159 (0.50; 95% CI 0.33-0.67)

Fig. 3 Meta-analysis

CI = confidence interval

4 Discussion & Recommendation

- pooled prevalence of hypopituitarism: 50%
- only 4 studies included in meta-analysis
- somatotrophic and gonadotrophic axes are most often impaired (data not shown)

• Exclusion of secondary causes

• Basal endocrine assessment:

morning
cortisol

ft4

testosterone
estradiol

IGF-I

prolactin

5 References

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