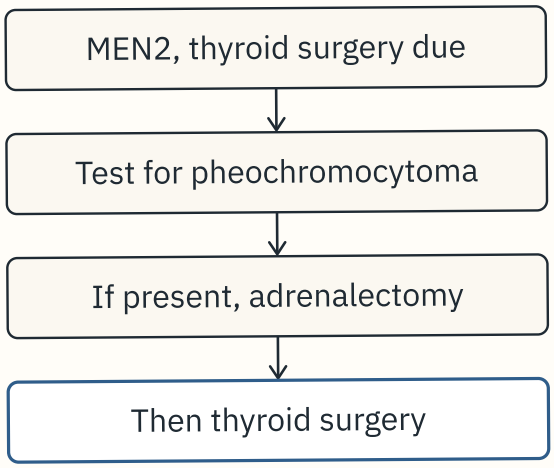
MEN1, MEN2A, MEN2B

Match the gene to its tumours



Step by step

1. All three are autosomal dominant: 1 in 2 per child of a carrier
2. MEN1: menin loss, the three P's
3. MEN2: activating RET, medullary thyroid carcinoma plus pheochromocytoma
4. 2A adds parathyroid; 2B adds neuromas and Marfanoid habitus

Syndrome	Gene	Tumours
MEN1	MEN1 (menin), loss of function	Parathyroid, pituitary, pancreas
MEN2A	RET, activating	Medullary thyroid, pheochromocytoma, parathyroid
MEN2B	RET, activating (M918T)	Medullary thyroid, pheochromocytoma, mucosal neuromas, Marfanoid habitus

Gene and tumours

Brake and accelerator

MEN1 loses a brake (menin)

MEN2 jams the accelerator (RET)

MEN1 = three P's: parathyroid, pituitary, pancreas

Exam traps

- MEN2B has no parathyroid disease; parathyroid belongs to MEN1 and MEN2A
- Pituitary and pancreatic tumours are the MEN1 pattern, not RET
- Exclude pheochromocytoma before thyroid surgery

MEN1, MEN2A and MEN2B: match the gene to its tumours

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/endocrinology/multiple-endocrine-neoplasia-men1-men2a-men2b

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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