

EMBRYOLOGY

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The embryology of the thyroid and parathyroid glands underlies the anatomical position, anatomical variations and congenital conditions of these structures; it is therefore vital for surgery (Figure 55.1). The thyroglossal duct develops from the median bud of the pharynx. The foramen caecum at the junction of the anterior two-thirds and posterior one-third of the tongue is the vestigial remnant of the duct. This initially hollow Delphi , a sacred site near the Gulf of Corinth in Greece, is the place where Pythia, the snake-woman oracle, resided. She sat on a tripod clutching the ribbons of the monolithic 'omphalos' of the world and, after inhaling sulphurous fumes, would utter meaningless jargon, which was interpreted equivocally by the attendant priests for those who came to consult her. Formerly the purpose of these lymph nodes was uncertain, and they were therefore called 'Delphic'. structure migrates caudally and passes in close continuity with, and sometimes through, the developing hyoid cartilage. The parathyroid glands develop from the third and fourth pharyngeal pouches. The thymus also develops from the third pouch. As it descends, the thymus takes the associated parathyroid gland with it, which explains why the inferior parathyroid, - which arises from the third pharyngeal pouch, normally lies inferior to the superior gland. However, the inferior parathyroid may be found anywhere along this line of descent (see also Chapter 56). The developing thyroid lobes amalgamate with the structures that arise in the fourth pharyngeal pouch, i.e. the superior parathyroid gland and the ultimobranchial body . Parafollicular cells (C cells) from the neural crest reach the thyroid via the ultimobranchial body .

Buccal cavity Thyroid II III IPG Path of Thymus descent of thyroid IV SPG Path of UBB descent of IPG and thymus Tracheo-oesophageal tube Figure 55.1 Embryology of the thyroid and parathyroid. Diagram of an anterior view of the pharynx in a 4-week embryo showing the relationship of the third and fourth pharyngeal pouches to the final position of the thyroid and parathyroid glands. IPG, inferior parathyroid; SPG, superior parathyroid; UBB, ultimobranchial body. To be able to select appropriate investigations for thyroid • swellings To know when to operate on a thyroid swelling • To describe thyroidectomy • To know the risks and complications of thyroid surgery •

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