



**Fig. S3. Clinical and radiological findings in patients 1–5.** (A–D) patient 1 (IV.2); (A) Overview and (B) detail of histology of lid lesions revealed apocrine hidrocystoma (haematoxylin (H&E) stain). (C) The skin of the palms and soles showed diffuse erythrokeratoderma with scaling particularly in pressure-bearing areas. All nails were fragile, some hypoplastic with longitudinal furrows and ridging. (D) Panoramic X-ray displaying 6 permanent teeth (16, 11, 21, 36, 35, and 47 according to the Fédération Dentaire Internationale tooth numbering system), 2 persistent deciduous teeth (73 and 83), but no periodontal or other pathology. All teeth were capped to support the upper and lower removable dentures. His beard hair appeared fine, his scalp showed androgenic pattern baldness, he had sparse and short eyelashes, almost missing eyebrows and scanty body and axillary hair (not shown). (E, F) Patient 2 (IV.3). (E) The skin of her nose and her palms and soles were erythematous with fine scaling. (F) Panoramic X-ray showing only 8 permanent teeth (17, 11, 21, 27, 37, 34, 44, and 47) all being capped to support upper and lower removable dentures. There was no history of periodontitis. (G, H) patient 4 (V.3); (G) Her palms and soles were mildly erythematous. The skin of her hands was very dry and would fissure easily without the daily use of skin lotion. In addition, the skin of her elbow crease was lichenified. Her finger nails and also her toe nails were very soft and could easily be pulled off. She therefore uses nail polish routinely to stabilize her nails. (H) Panoramic X-ray: 5 permanent teeth (15, 14, 12, 22, and 25) did not develop. Gaps had been closed orthodontically and by the insertion of dental implants. (I) Patient 3 (IV.7) with callused skin of the soles. Agenesis of 3 permanent teeth (14, 37, and 47) and no signs of periodontitis (not shown). (J) Patient 5 (V.7); panoramic X-ray showing agenesis of 5 permanent teeth (15, 37, 35, 45 and 47).