Supplementary Table 8: Study details parathyroid allotransplantation

Study - Design	Population	Intervention	Definition of functioning graft	Results	Comments
Aysan (2016)[1] - Cohort study Turkey	Individuals with permanent hypoparathyroidism after thyroid surgery (*n* = 10, undergoing 11 allotransplantations), not benefitting from standard medical therapy (calcium/vitamin D) Mean recipient age 41.4 (range 20-61) years, all females	Fifty million cryopreserved parathyroid cells, cultured from parathyroid glands with diffuse hyperplasia, suspended in 1 mL of the recipients blood serum, injected in the left deltoid muscle Donor cells deriving from 5 living donors undergoing parathyroidectomy for secondary hyperparathyroidism Matched to bloodgroup (ABO) phenotype in 4/10 recipients 250 mg i.v. methylprednisolone administered 30 minutes before transplantation, dosages reduced 2 days after, followed by 7 days oral prednisolone 5 mg/day	Not defined	During a median follow-up of 12 (range 9-15) months, allograft function was observed in 7 recipients (70%) In these 7 recipients: - no need for i.v. calcium during follow-up - daily calcium and vitamin D supplementation was reduced and finally discontinued - no major or minor complications during follow-up	-
Goncu (2024)[2] - Cohort study Turkey	Individuals with permanent hypoparathyroidism after thyroid surgery (*n* = 14) Mean recipient age 39.4 (range 28-54) years, 64% female	Approximately 312 to 431 million parathyroid suspension cells, transferred directly over the omentum surface Donor cells deriving from 13 living donors, mean age 39 years (range 22-60), undergoing	No need for i.v. calcium	During 24 months follow-up: - no need for i.v. calcium in all recipients - daily calcium and vitamin D supplementation was reduced (discontinuation in none) - PTH level mean 5.9 (range 0.4-19.9) pg/mL^ vs. mean	-

		parathyroidectomy for secondary hyperparathyroidism, with negative lymphocyte crossmatch tests Matched to bloodgroup (ABO) phenotype		6.9 (range 0.2-23.7) pg/mL pretransplantation - "positive effect on calcium levels"; mean 2.05 (range 1.70-2.52) mmol/l^^ vs. mean 2.00 (range 1.62-2.45) mmol/l pretransplantation - "phosphorus levels remaining in healthy range"; mean 4.4 (range 2.2-5.1) mg/dL^ vs. mean 4.4 (range 3.5-5.4) mg/dL pretransplantation	
Nawrot (2007)[3] - Cohort study Poland	Individuals with hypoparathyroidism after thyroid surgery (*n* = 85, undergoing 116 allotransplantations) Mean recipient age 46.2±11.1 years, % females n.r.	Cryopreserved parathyroid cells, cultured from parathyroid glands with diffuse hyperplasia, injected under fascia of non-dominant forearm Decrease of HLA class I ABC expression and free if HLA class II positive cells; no host immunosuppression required Donor cells deriving from 20 living donors undergoing parathyroidectomy for secondary and tertiary hyperparathyroidism, mean age 41.5 years (range 18-64) Matched to bloodgroup (ABO) phenotype	All criteria met: 1) Calcium levels ≥ 2.0 mmol/L without vitamin D3 supplementation or with only a minimal* calcium supplementation 2) Marked increase* in PTH levels as compared to preallotransplantation values 3) Evident PTH gradient > 1.5 between blood samples taken from the ipsilateral and contralateral arms	Mean cellular allograft survival 6.35±13.08 months In 64 individuals (55.1%) allografts remained endocrine function > 2 months 43% of allografts did not function directly after transplantation	-
HLA = human leukocyte antigen ^ data based on 10 recipients ^^ data based on 11 recipients * not defined					

References

1. Aysan, E., et al., *Parathyroid Allotransplant With a New Technique: A Prospective Clinical Trial.* Exp Clin Transplant, 2016. **14**(4): p. 431-5.
2. Goncu, B., et al., *The Challenge of Preoperative Panel Reactive Antibody Positivity in Parathyroid Transplantation.* Exp Clin Transplant, 2024. **22**(Suppl 1): p. 233-242.
3. Nawrot, I., et al., *Allotransplantation of cultured parathyroid progenitor cells without immunosuppression: clinical results.* Transplantation, 2007. **83**(6): p. 734-40.