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Over 30 face transplants have been performed to date, but little is known about the long-term outcomes of recipients. A new study published in the *American Journal of Transplantation* reveals that faces, when transplanted, change their appearance based on the bone structure of the recipient, and they seem to age at an accelerated rate.

For their study, investigators led by Bohdan Pomahac, MD, of Brigham and Women's Hospital and Harvard Medical School, followed three full-face transplant recipients over 36 months. Dr. Pomahac led the team that performed the first full-face transplant in United States and the third overall in the world.

The group noted a significant decrease in

facial volume in patients that resembled premature aging but was driven by a reduction in volume of bone and muscle, not facial fat or skin thickness as is seen with normal facial aging. The findings suggest the need for effective countermeasures to reverse, delay, or even prevent muscle and bone atrophy in order to sustain the aesthetic outcomes of face transplants. FONT>

"The field of face transplantation is young, and we are all learning about our interventions and their outcomes. We studied why transplanted faces seem to age fast as well as we could, but we don't really know many other things: When does this process end? Is

it possibly a sign of inadequate blood supply or ongoing rejection?" noted Dr. Pomahac. "As often occurs in science, our study raises more questions than it answered." He added that the findings have implications for patients and their expectations, and they may impact the way surgeons plan face transplant operations. "But first we have to understand what's exactly going on, and we are not there yet."

The National Organ Transplant Act was revised just last year to expand the definition of organs to include vascularized composite allografts, which includes faces. Because face

transplantation is a non-life-saving procedure with potential life-threatening side effects, it presents unique ethical challenges that require long-term studies to better understand its risks and benefits.