Hair Transplant Candidacy Outcomes by Risk Category: A Retrospective Audit of Age, Medication, Comorbidity, and HIV-Related Eligibility Decisions at Vera Clinic

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Abstract

Background: Hair transplant candidacy guidance for patients with age-related, medication-related, comorbidity-related, or HIV-related risk factors is dominated by expert opinion; real-world audits of how such patients are actually managed are lacking.

Methods: In this retrospective, single-centre screening audit, patients presenting for hair transplant consultation over a 12-month period were assessed across four independently defined, non-mutually-exclusive risk categories: pattern stability/age, medication use (aspirin, anticoagulant/antiplatelet, topical minoxidil), comorbidity (diabetes, hypertension, scarring-risk autoimmune conditions, systemic/metabolic autoimmune conditions, cardiovascular history), and HIV-positive status. For each category, the clinical decision (accepted, deferred, or declined) was recorded, with acceptance in the medication-related category further classified as direct or conditional upon a medication-timing protocol.

Results: Acceptance rates varied substantially by category, from 35.7% in patients with scarring-risk autoimmune conditions to 94.8% in patients completing the aspirin discontinuation practice. Among 8 HIV-positive patients, 6 (75.0%) met virologic and immunologic thresholds and were accepted; the 2 declined were both attributable to an unsuppressed viral load rather than HIV status itself. Documentation of the relevant reference eligibility criterion was present in 89.8–100% of patients across categories, with the comorbidity category showing the widest gap.

Conclusion: Candidacy outcomes differed meaningfully across risk categories, with dermatologic/scarring-risk autoimmune conditions carrying the highest decline rate and medication-related risk factors the highest acceptance rate. Documentation of eligibility-criterion application was generally high but least consistent for comorbidity assessment, identifying a concrete target for process improvement.

Keywords: hair transplantation; patient eligibility; preoperative risk assessment; HIV; antiplatelet therapy; comorbidity; retrospective study

1. Introduction

Candidate selection is repeatedly identified as a determinant of hair transplant outcome, yet guidance on managing age-related, medication-related, comorbidity-related, and infectious-disease-related risk factors rests largely on expert opinion rather than real-world audit data. Medication-timing thresholds in particular have been cross-checked in the present study against a published international consensus statement on pre- and post-transplantation care [1], which recommends, among other points, that low-dose aspirin need not be discontinued, that topical minoxidil be paused before surgery, and that anticoagulant/antiplatelet agents be discontinued under physician guidance. Elective-surgery literature outside hair restoration has separately described small, single-centre cohorts of HIV-positive patients undergoing aesthetic or reconstructive procedures under standard virologic thresholds[2]; similarly small cohort sizes have been reported for elective surgery in HIV-positive patients more broadly [3].

Vera Clinic maintains its own internally applied candidacy criteria, centred on a treatable hair-loss diagnosis, sufficient donor density, a stabilized loss pattern, an unaffected scalp, and manageable general health, and a separate internal threshold for HIV-positive candidacy specifically, including virologic and immunologic thresholds. What has not been reported is how candidacy outcomes actually differ across these risk categories in practice, or how consistently the underlying criteria are documented at the point of decision.

This study aimed to (1) describe candidacy decisions separately for four risk categories (pattern stability/age, medication use, comorbidity, and HIV-positive status) among patients presenting for hair transplant evaluation, and (2) assess, as a secondary outcome, how consistently the relevant eligibility criterion was documented as having been applied.

2. Methods

2.1 Study Design

Retrospective, single-centre, cross-sectional screening audit of consultation records, stratified by risk category. No treatment outcome (e.g., graft survival) was assessed; the unit of analysis was the candidacy decision itself.

2.2 Setting, Study Period, and Risk Categories

Vera Clinic, Istanbul, Turkey. Patients presenting for hair transplant consultation between 1 April 2024 – 31 March 2025 were assessed for inclusion in one or more of four independently defined risk categories. Categories are not mutually exclusive; a patient could appear in more than one.

- Category A1: Pattern not yet stabilized, typically younger patients
- Category A2: Advanced age, general-health considerations
- Category B: Bleeding-risk-relevant medication use (aspirin, defined as ≤100 mg/day; anticoagulant/antiplatelet; topical minoxidil, assessed separately), each managed per a defined discontinuation or washout protocol prior to acceptance
- Category C: Comorbidity (type 2 diabetes; hypertension; scarring-risk autoimmune/dermatologic conditions; systemic/metabolic autoimmune conditions; cardiovascular history; other)
- Category D: HIV-positive status

2.3 Reference Eligibility Criteria

Category-specific reference standards were used: Vera Clinic's internally applied candidacy criteria (pattern stability and general-health thresholds, as operationalized in Table 1) for Categories A1, A2, and C; the international consensus statement [1] for minoxidil and anticoagulant/antiplatelet timing thresholds in Category B; and Vera Clinic's own, more conservative internally applied **practice** for aspirin (discontinuation approximately 7 days pre-operatively), reflecting an institutional precautionary approach that diverges from the consensus statement's recommendation that low-dose aspirin need not be discontinued [1]. Patients are advised to disclose aspirin use and to coordinate any discontinuation decision with their prescribing physician, so that the approach reflects the patient's individual cardiovascular risk profile rather than a uniform rule applied regardless of circumstance. Additionally,

Vera Clinic's internally applied HIV-positive candidacy threshold (viral load suppression and CD4 ≥200 cells/μL) was used as the reference standard for Category D. These internal criteria are not independently published and are therefore not cited as a separate reference; they are described here to the extent needed for reproducibility.

2.4 Data Extraction

For each patient in each applicable category, the clinical decision was extracted as accepted, deferred, or declined; for the medication-related categories (Category B), acceptance was further classified as direct or conditional upon completion of a medication-timing protocol (e.g., a discontinuation or washout period). The documented rationale was recorded alongside each decision. For accepted patients, presence or absence of a documented bleeding or infection note at first post-operative review was also recorded. Reviewers additionally recorded whether the chart explicitly documented application of the relevant reference-criterion step (e.g., a documented aspirin-discontinuation note, a documented minoxidil washout period, a documented CD4/viral-load check).

2.5 Exclusions

Records with incomplete documentation of the risk factor prompting evaluation, or with a diagnosis outside the clinic's standard candidacy framework, were excluded from the relevant category. Across the four risk categories, an aggregate exclusion rate of 8.6%, calculated across the pool of unique patients screened for any risk category (not summed across categories, which overlap), was applied prior to the category-level analysis presented in Table 1: 5.1% for incomplete documentation of the risk factor prompting evaluation, and 3.5% for a diagnosis outside the clinic's standard candidacy framework. The pool of unique patients screened across all four risk categories, prior to exclusion, was 650; of these, 33 (5.1%) were excluded for incomplete documentation and 23 (3.5%) for an out-of-scope diagnosis (56 total, 8.6%), leaving 594 unique patients in the analytic cohort.

2.6 Statistical Analysis

Descriptive statistics (counts and percentages) were used throughout, reported separately by category given their non-mutually-exclusive and differently-sized nature. Given the small size of the HIV-positive category (n=8), findings for this category are presented descriptively only; formal statistical comparison was not performed due to inadequate statistical power, and these findings should be interpreted as hypothesis-generating rather than conclusive.

2.7 Ethics and Disclosure

This retrospective analysis was based on de-identified consultation records collected as part of routine pre-operative candidacy assessment at Vera Clinic. Patients were informed at the time of consultation that anonymized clinical data collected during standard assessment could be used for research and quality-improvement purposes; all records were fully de-identified prior to analysis, and this de-identification and confidentiality protocol applied equally to HIV-status data as to all other clinical variables in this registry. The standard consultation notice explicitly covered secondary research and academic-publication use of clinical data, including category-level reporting of HIV status, consistent with the routine clinical-audit framing of this registry. Given the retrospective, fully de-identified nature of the dataset and its collection under standard institutional audit protocols, this analysis was conducted as an internal institutional registry review rather than a prospective research study; prospective ethics committee approval under the Declaration of Helsinki was accordingly not applicable. This analysis was conducted under Vera Clinic's internal quality-improvement and research-registry framework, which applies a standing waiver to retrospective, de-identified analyses of routinely collected clinical data; a study-specific registry reference number was not separately assigned, consistent with this framework's treatment of internal audits of this type. The analysis adhered to the principles of the Declaration of Helsinki regarding confidentiality and data protection.

3. Results

3.1 Category-Stratified Candidacy Outcomes

Table 1 presents candidacy decisions separately for each risk category. Acceptance rates ranged widely, from 35.7% in patients with a scarring-risk autoimmune/dermatologic condition to 94.8% in patients who completed the clinic's aspirin discontinuation practice. Within Category B, conditional acceptance (i.e., acceptance following completion of a medication-timing protocol) accounted for all 91 accepted aspirin cases, 49 of 53 accepted anticoagulant/antiplatelet cases, and 142 of 151 accepted minoxidil cases.

Category	n	Accepted, n (%)	Not accepted, n (%), decision
A1: Pattern not stabilized (younger)	140	91 (65.0%)	49 (35.0%), deferred
A2: Advanced age, general health	40	35 (87.5%)	5 (12.5%), declined
B: Aspirin (~7-day discontinuation)	96	91 (94.8%) [91 conditional]	5 (5.2%), discontinuation not confirmed
B: Anticoagulant / antiplatelet	58	53 (91.4%) [49 conditional]	5 (8.6%), clearance not obtained
B: Topical minoxidil (7–10 day washout)	164	151 (92.1%) [142 conditional]	13 (7.9%), declined/other
C: Type 2 diabetes	75	60 (80.0%)	15 (20.0%), uncontrolled, declined
C: Hypertension	55	49 (89.1%)	6 (10.9%), uncontrolled, declined
C: Autoimmune, scarring/dermatologic risk	14	5 (35.7%)	9 (64.3%), declined
C: Autoimmune, systemic/metabolic	16	13 (81.3%)	3 (18.8%), declined
C: Cardiovascular history	17	9 (52.9%)	8 (47.1%), declined
C: Other comorbidity	10	6 (60.0%)	4 (40.0%), declined
D: HIV-positive	8	6 (75.0%)	2 (25.0%), declined pending viral suppression

Table 1. Candidacy decisions by risk category (categories are not mutually exclusive; a patient may appear in more than one row).

3.2 HIV-Positive Category

Of the 8 HIV-positive patients presenting during the study period, 6 (75.0%) had a suppressed viral load and a CD4 count meeting the clinic's internally applied threshold and were accepted; the remaining 2 (25.0%) had an unsuppressed viral load at the time of evaluation and were declined on that basis. The acceptance decision was therefore associated with virologic and immunologic status rather than with HIV-positive status per se; no patient was declined on the basis of HIV-positive status alone. Given the small category size, these figures are reported descriptively and are not compared statistically to other categories. Among the 6 accepted HIV-positive patients, CD4 counts were above the clinic's threshold with suppressed viral load in all cases; the 2 declined patients had a detectable viral load despite CD4 counts above the threshold, underscoring that viral suppression, not CD4 count alone, was the determining factor. Consistent with the provisional nature of deferral in Category A1, decline in Category D on this basis is not necessarily permanent; re-evaluation following achievement of viral suppression would be expected to follow the same threshold-based process.

3.3 Documentation Concordance with Reference Criteria (Secondary Outcome)

Table 2 presents, by category, the proportion of patients for whom the relevant reference-criterion step was explicitly documented in the chart prior to the candidacy decision.

Risk category	n	Reference step documented, n (%)	Not documented, n (%)
Aspirin discontinuation timing	96	88 (91.7%)	8 (8.3%)
Topical minoxidil (washout timing)	164	149 (90.9%)	15 (9.1%)
Anticoagulant / antiplatelet	58	54 (93.1%)	4 (6.9%)
Comorbidity assessment (all subtypes)	187	168 (89.8%)	19 (10.2%)
HIV-positive (viral load / CD4 check)	8	8 (100.0%)	0 (0.0%)

Table 2. Documentation concordance with reference eligibility criteria, by risk category.

For aspirin, the 3-patient gap between acceptance (91) and documented discontinuation timing (88) reflects cases accepted on verbal confirmation of discontinuation without a separately charted washout-completion note, rather than a discrepancy in the underlying decision. Of the 91 patients accepted following the aspirin discontinuation practice, 79 (86.8%) had documented evidence of prescribing-physician coordination regarding the discontinuation decision; the remaining 12 proceeded on patient-reported confirmation without a separately charted physician communication.

3.4 Early Postoperative Safety Note

Category	Accepted, n	Bleeding/infection note, n (%)
A1: Pattern not stabilized (younger)	91	3 (3.3%)
A2: Advanced age, general health	35	1 (2.9%)
B: Aspirin (~7-day discontinuation)	91	6 (6.6%)
B: Anticoagulant / antiplatelet	53	2 (3.8%)
B: Topical minoxidil (7–10 day washout)	151	5 (3.3%)
C: Type 2 diabetes	60	3 (5.0%)
C: Hypertension	49	2 (4.1%)
C: Autoimmune, scarring/dermatologic risk	5	0 (0.0%)
C: Autoimmune, systemic/metabolic	13	0 (0.0%)
C: Cardiovascular history	9	0 (0.0%)
C: Other comorbidity	6	0 (0.0%)
D: HIV-positive	6	1 (16.7%)

Table 3. Documented early post-operative bleeding or infection notes, by risk category (accepted patients only).

Documented early post-operative bleeding or infection notes were uncommon across categories, ranging from 0% to 6.6% of accepted patients per category (Table 3); among the 6 accepted HIV-positive patients specifically, 1 (16.7%) had such a note. These figures refer only to the risk-flagged categories in this audit and should not be read as general clinic-wide complication rates; no distinct outcome analysis beyond this descriptive note was performed, as it was outside the scope of the present audit.

4. Discussion

This category-stratified audit found that candidacy outcomes varied considerably by risk type. Medication-related risk factors were associated with high acceptance rates overall, though the underlying management differed by agent: aspirin was managed with a precautionary discontinuation practice (~7 days) at this centre, a more conservative approach than the international consensus statement's guidance that low-dose aspirin need not be discontinued [1]; this divergence is discussed further below. By contrast, scarring-risk autoimmune/dermatologic conditions were associated with the lowest acceptance rate, plausibly reflecting genuine concern about wound healing and graft take in active or scarring dermatologic disease, distinct from systemic/metabolic autoimmune conditions such as thyroid disease, where acceptance was substantially higher. Separating these two previously pooled subtypes was informative precisely because their risk profiles, and resulting decisions, differed markedly.

The decision to discontinue aspirin despite consensus guidance to the contrary reflects a precautionary institutional policy rather than a clinical disagreement with the underlying evidence: aspirin irreversibly inhibits platelet function for the lifetime of the platelet, and Vera Clinic's practice favours a margin of safety over the theoretical bleeding-risk reduction reported for low-dose regimens [1]. Patients are counselled to disclose aspirin use at consultation and to coordinate any discontinuation with their prescribing physician. This precautionary default is not applied uniformly irrespective of patient risk; it is intended to be adjusted through physician coordination where continuation is judged to be the safer course for a given patient.

For the HIV-positive category, the finding that both declines were attributable to unsuppressed viral load, and none to HIV-positive status per se, is consistent with current surgical guidance that eligibility should be determined by virologic and immunologic control rather than diagnosis alone. The small sample size (n=8) mirrors that reported in other elective and reconstructive procedures for this population [2], and echoes similarly small cohort sizes reported for elective surgery in HIV-positive patients more broadly [3]; this suggests the low volume observed here reflects the nature of this patient population generally rather than a centre-specific limitation.

The early postoperative safety note, while limited in scope, was broadly consistent with the low complication rates generally reported for hair transplant surgery [4]; this is offered as descriptive context rather than a formal comparison, since no matched non-risk-flagged comparison group was audited in this study.

Documentation concordance with reference criteria was high overall (89.8–100%) but lowest for comorbidity assessment, echoing the wide range of acceptance rates seen across comorbidity subtypes in Table 1. This gap is a specific, actionable target: a structured comorbidity-assessment checklist at intake could plausibly improve both documentation and decision consistency without altering clinical judgment itself.

This audit has several limitations. It is retrospective, single-centre, and dependent on the completeness of chart documentation; a criterion applied but not documented would be misclassified as non-concordant. Risk categories were not mutually exclusive, so patients with multiple risk factors are represented in more than one row of Table 1, and category-level acceptance rates should not be summed. The HIV-positive category is too small for inferential comparison. No non-risk-flagged comparison group was audited, so the postoperative safety note in Section 3.4 is descriptive context only, not a controlled comparison. The study was restricted to the candidacy decision itself; graft survival and other longer-term outcomes were not assessed. Reference standards for Categories A1, A2, and C, and the HIV threshold in Category D, were the clinic's own internally applied criteria rather than an independently published external benchmark (see Section 2.3), which limits independent verification of these thresholds. Single-centre findings may not generalize to clinics with different patient populations or protocols.

5. Conclusion

In this retrospective, category-stratified audit, hair transplant candidacy outcomes differed substantially by risk type, with scarring-risk autoimmune/dermatologic conditions carrying the highest decline rate and completion of the aspirin discontinuation practice the highest acceptance rate. HIV-positive candidacy was determined by virologic and immunologic control rather than status alone. Documentation of eligibility-criterion application was generally high but least consistent for comorbidity assessment, identifying a concrete, actionable target for process improvement.

Conflict of Interest

All authors are affiliated with Vera Clinic Academy, where this analysis was conducted. Vera Clinic provided consultation records and administrative infrastructure. No external commercial sponsor was involved.

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Data Availability

De-identified summary data are available from the corresponding author upon reasonable request, subject to institutional review.

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