The Burden of Cutaneous Disease in Solid Organ Transplant Recipients with Skin of Colour

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Conflicts of Interest
None to declare

Learning Objectives
Following this session, attendees should recall the rationale behind skin surveillance programs for organ transplant recipients and identify the cutaneous diseases encountered by different ethnicities. Attendees should be able to integrate this knowledge in considering the design of targeted patient follow-up and education.

Background
- Ethnic variation in post-transplant disease exists
- Patients of white Northern European descent are at increased risk of keratinocyte cancers

Background
- International guidelines suggest long-term follow-up of OTRs in dedicated dermatology surveillance clinics

Background
- 7956 patients on the UK renal transplant waiting list
- 452 registered at our center
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Background
• Many studies from the UK, USA and Australia have included very few non-white patients

Methods
• Prospective organ transplant database 1989-2016
• Hand-searching of electronic and paper records
• Extraction of dermatologic diagnoses and time of onset
• Analyzed on SPSS using ANOVA, Kruskal-Wallis, $\chi^2$ & Fisher exact

Results: Demographics
• 1304 patients
• 1125 with any skin problem
• 829 male (64%), 475 female (36%)
• 1276 renal transplant
  • 6 liver transplant
  • 7 lung transplant
  • 7 cardiac transplant
  • 4 pancreas transplant
Results: Median Age at Transplant

- White Northern European: 43 (IQR 22)
- White-Mediterranean: 40.5 (IQR 21.75)
- South Asian: 42 (IQR 19)
- Black African/Caribbean: 43 (IQR 19)
- Far East Asian: 44 (IQR 16)
- Middle Eastern: 29.5 (IQR 9)

Results: Median Time in Follow-Up

Patients with Basal Cell Carcinoma

- White Northern European: 43 (IQR 22)
- White-Mediterranean: 40.5 (IQR 21.75)
- South Asian: 42 (IQR 19)
- Black African/Caribbean: 43 (IQR 19)
- Far East Asian: 44 (IQR 16)
- Middle Eastern: 29.5 (IQR 9)

Results: Squamous Cell Carcinoma

Patients with Squamous Cell Carcinoma

- White Northern European: 43 (IQR 22)
- White-Mediterranean: 40.5 (IQR 21.75)
- South Asian: 42 (IQR 19)
- Black African/Caribbean: 43 (IQR 19)
- Far East Asian: 44 (IQR 16)
- Middle Eastern: 29.5 (IQR 9)

Results: Kaposis Sarcoma

Patients with Kaposis Sarcoma

- White Northern European: 43 (IQR 22)
- White-Mediterranean: 40.5 (IQR 21.75)
- South Asian: 42 (IQR 19)
- Black African/Caribbean: 43 (IQR 19)
- Far East Asian: 44 (IQR 16)
- Middle Eastern: 29.5 (IQR 9)

Results: Skin Cancer (other)

- White Northern European: 43 (IQR 22)
- White-Mediterranean: 40.5 (IQR 21.75)
- South Asian: 42 (IQR 19)
- Black African/Caribbean: 43 (IQR 19)
- Far East Asian: 44 (IQR 16)
- Middle Eastern: 29.5 (IQR 9)
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Results: Viral Warts

- White Northern European
- White Mediterranean
- Black African/Caribbean
- South Asian
- Far East Asian
- Middle Eastern
- Far East Asian
- White Mediterranean
- South Asian
- Black African/Caribbean

Results: Fungal Pedal Infections

- White Northern European
- White Mediterranean
- Black African/Caribbean
- South Asian
- Far East Asian
- Middle Eastern
- Far East Asian
- White Mediterranean
- South Asian
- Black African/Caribbean

Results: Acne

- White Northern European
- White Mediterranean
- Black African/Caribbean
- South Asian
- Far East Asian
- Middle Eastern
- Far East Asian
- White Mediterranean
- South Asian
- Black African/Caribbean

Results: Bacterial Infections

- White Northern European
- White Mediterranean
- Black African/Caribbean
- South Asian
- Far East Asian
- Middle Eastern
- Far East Asian
- White Mediterranean
- South Asian
- Black African/Caribbean
Conclusions

- White Northern European & Far East Asian OTRs are at a high risk of keratinocyte malignancy
- Black African/Caribbean patients are at a high risk of Kaposi Sarcoma in the first decade post-transplant
- Few conclusions can be drawn from the Middle Eastern cohort
- Fungal and viral skin diseases are universally common

Conclusions

- Black African/Caribbean patients have high rates of acne but a lower overall burden of skin disease than other RTRs, including malignancy
Impact

- Rational design of OTR surveillance programs
- Allows for targeted patient/physician education and optimised clinical management
- Strategic deployment of limited dermatology resources

Recommendations

- All patients should receive a baseline visit for skin assessment and targeted education (nurse-led)
- White Northern European & Far East Asian OTRs should be followed up as per protocol
- Black African/Caribbean patients should be followed up for at least 5 years post-transplant
- OTRs and their providers should be comprehensively educated on the skin disease they are likely to encounter

Risk level | Definition | Interval after baseline assessment
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1 | Skin type V and VI | KS surveillance - 5y
2 | I-IV; <5y at Tx | 5y, 10y, then 2-yearly
3 | I-IV; 3-45y; < 5 sunburns | 5y, 7y, 9y, 12y, then annually
4 | I-IV; 3-45y; > 5 sunburns | I-IV; 45-55y | 2y, 4y, then annually
5 | I-IV; >55y (AKs) | 1y, 2y, then 6 monthly

Additional References


