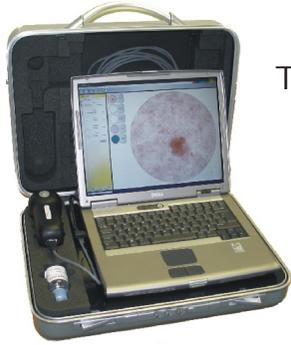


Triaging suspicious pigmented lesions in primary care using the SIAscope - A preliminary report

JE Hunter¹, M Moncrieff¹, PN Hall¹, FM Walter², J Emery³, S Cotton⁴

¹Department of Plastic Surgery, Addenbrooke's Hospital, Cambridge, UK; ²Department of Public Health and Primary Care, Cambridge, UK

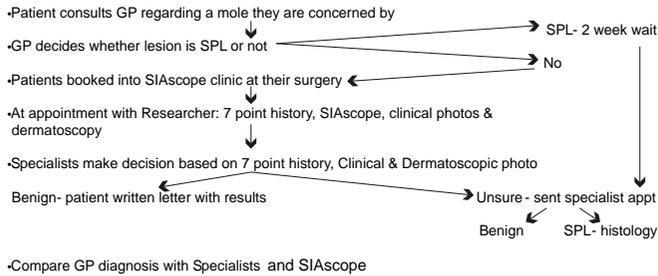
³Discipline of General Practice, University of Western Australia; ⁴Astron Clinica, Cambridge, UK



The SIAscope

SPL = 'Suspicious Pigmented Lesion'

Protocol

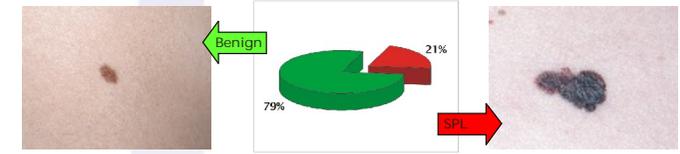


Objective: The SIAscope is a non-invasive multispectral scanning technique deriving microarchitectural information regarding the skin within seconds. SIAGraphs map the concentration of dermal and epidermal melanin, blood and collagen thickness across the imaged skin lesion. Previous work in secondary care has demonstrated that SIAscopy is a simple and effective tool in the early diagnosis of cutaneous malignant melanoma. A wealth of data suggests that GPs have low specificity for diagnosing melanoma. To date, studies of the SIAscope have been conducted on referred populations; this study examines its use in primary care.

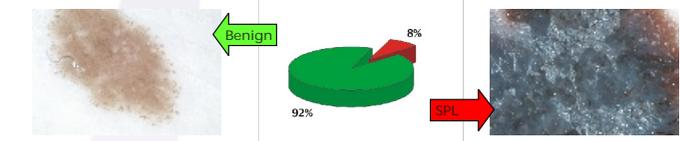
Materials and Methods: Patients attend their GP's practice and are assessed in the usual way with the GP stating their intended action. The patients are separately reviewed by our team by means of clinical examination, photography, dermatoscopy and SIAGraphy. The 'silver standard' for referral is based on expert opinion of the history, photograph and dermatoscopy, and this is compared to the GPs action and the SIAGraph.

Results: Preliminary data (322 lesions) shows that whilst GP sensitivity and specificity for the specialist diagnosis of 'suspicious pigmented lesion' (SPL) is currently 40% and 80% respectively, the corresponding values for the SIAscope are 76% and 94%.

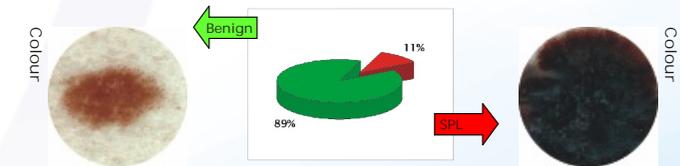
Conclusion: This is the first study to investigate the diagnostic characteristics of the SIAscope in a primary care population, where the key clinical decision is not to diagnose melanoma but to determine if the lesion is sufficiently suspicious to warrant expert assessment and excision. By comparing SIAGraphs with GP and specialist diagnoses, the role of the SIAscope in the diagnosis of suspicious pigmented skin lesions is being examined. Preliminary data is encouraging, especially showing that the SIAscope may well be useful in triaging benign lesions that do not require referral to already overburdened pigmented skin lesion clinics.



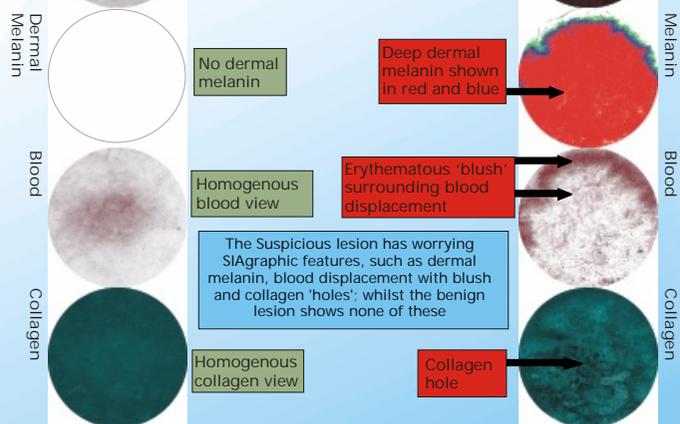
GP diagnosis of 'Suspicious Pigmented Lesion' (Clinical views of suspicious and benign lesions)



Specialist diagnosis of 'Suspicious Pigmented Lesion' (Dermatoscopic views of suspicious and benign lesions)



SIA diagnosis of 'Suspicious Pigmented Lesion' (SIA views of suspicious and benign lesions)



		Specialist diagnosis of SPL		
		Yes	No	
GP diagnosis of SPL	Yes	10	59	69
	No	15	238	253
		25	297	322

For GP diagnosis:
Sensitivity = 40% (21-59%*)
Specificity = 80% (76-85%*)
Positive Predictive Value = 14% (6-23%*)
Negative Predictive Value = 94% (91-97%*)
*95% CI

Results for GP diagnosis of 'SPL' versus Specialist diagnosis

		Specialist diagnosis of SPL		
		Yes	No	
SIA diagnosis of SPL	Yes	19	17	36
	No	6	280	286
		25	297	322

For SIA diagnosis:
Sensitivity = 76% (59-93%*)
Specificity = 94% (92-97%*)
Positive Predictive Value = 53% (36-69%*)
Negative Predictive Value = 98% (96-100%*)
*95% CI

Results for SIA diagnosis of 'SPL' versus Specialist diagnosis