

Since this is a very extensive table, the format and content has not been edited by ActaDV.

Table S1. High frequency ultrasound (HFUS), photoacoustic imaging (PAI), reflectance confocal microscopy (RCM) and optical coherence tomography (OCT) features associated with malignant and premalignant lesions (MM, AN, BCC, SCC, AK) and benign lesions (N, SK, others).

Features	Malignant and premalignant lesions					Benign lesions			Diagnostic impact			
	MM: n=4(%)	AN: n=4(%)	BCC: n=4(%)	SCC: n=1(%)	AK: n=2(%)	N: n=15(%)	SKcn=5(%)	Others: n=6(%)	Sensitivity(CI95%)	Specificity(CI95%)	Diagnostic accuracy (CI95%) / AUC (CI95%)	P-value/adjusted
HFUS												
dark hypochogenic areas (tumor)	4 (100)	4 (100)	4 (100)	1 (100)	2 (100)	14 (93)	5 (100)	6 (100)	1 (0.78, 1)	0.04 (0, 0.2)	0.39 (0.24, 0.55)	0.21/0.36
Blood vessels												
BV outside tumour Doppler	3 (75)	2 (67)	1 (25)	1 (100)	2 (100)	9 (60)	4 (80)	2 (33)	0.64 (0.35, 0.87)	0.42 (0.23, 0.63)	0.5 (0.34, 0.66)	1/1
BV inside tumour Doppler	1 (25)	1 (33)	0 (0)	1 (100)	2 (100)	6 (40)	2 (40)	3 (50)	0.36 (0.13, 0.65)	0.58 (0.37, 0.77)	0.5 (0.34, 0.66)	1/1
thickness (mm), med(Q1,Q3)	1.5 (1.45, 1.95)	0.8 (0.58, 1.5)	0.95 (0.88, 1.07)	3.65 (2.9, 2.9)	3.65 (2.78, 4.53)	1.1 (0.85, 1.45)	1.6 (1.6, 1.7)	1.4 (0.83, 3.18)				
PAI												
MELANIN dense superficial melanin*	4 (100)	3 (100)	1 (33)	1 (100)	2 (100)	15 (100)	4 (80)	6 (100)	0.85 (0.55, 0.98)	0.04 (0, 0.2)	0.31 (0.17, 0.48)	0.02/0.08
MELANIN shell-like areas in epidermis*	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	6 (40)	0 (0)	0 (0)	0.08 (0, 0.36)	0.77 (0.56, 0.91)	0.54 (0.37, 0.7)	0.75/0.83
MELANIN diffuse deeper pigm*	3 (75)	0 (0)	2 (67)	1 (100)	2 (100)	4 (27)	1 (20)	6 (100)	0.62 (0.32, 0.86)	0.58 (0.37, 0.77)	0.59 (0.42, 0.74)	0.34/0.49
MELANIN blood vessels inside melanin area*	3 (75)	2 (67)	2 (67)	1 (100)	2 (100)	3 (20)	2 (40)	6 (100)	0.77 (0.46, 0.95)	0.58 (0.37, 0.77)	0.64 (0.47, 0.79)	0.11/0.23
Blood vessels												
HB inside tumour	2 (50)	1 (33)	2 (67)	1 (100)	1 (50)	2 (13)	0 (0)	4 (67)	0.54 (0.25, 0.81)	0.77 (0.56, 0.91)	0.69 (0.52, 0.83)	0.02/0.08
HB increased diameter	1 (25)	2 (67)	1 (33)	1 (100)	0 (0)	1 (7)	1 (20)	0 (0)	0.38 (0.14, 0.68)	0.92 (0.75, 0.99)	0.74 (0.58, 0.87)	<0.01/0.02
HB outside tumour	4 (100)	3 (100)	3 (100)	1 (100)	2 (100)	13 (87)	5 (100)	6 (100)	1 (0.75, 1)	0.08 (0.01, 0.25)	0.38 (0.23, 0.55)	0.2/0.36
HBO2 inside tumour	3 (100)	4 (100)	3 (100)	1 (100)	5 (83)	3 (20)	5 (83)	2 (40)	1 (0.75, 1)	0.62 (0.41, 0.8)	0.74 (0.58, 0.87)	<0.01/0.02
HBO2 increased diameter	4 (100)	1 (33)	2 (67)	1 (100)	1 (50)	8 (53)	3 (60)	4 (67)	0.69 (0.39, 0.91)	0.42 (0.23, 0.63)	0.51 (0.35, 0.68)	1/1
HBO2 outside tumour	4 (100)	2 (67)	3 (100)	1 (100)	2 (100)	15 (100)	5 (100)	6 (100)	0.92 (0.64, 1)	0 (0, 0.13)	0.31 (0.17, 0.48)	0.02/0.08
tumour thickness (mm),med(Q1,Q3)	1.2 (1.2, 3.8)	2.55 (1.95, 3.08)	1.4 (1.15, 1.75)	1.1 (1.1, 1.1)	1.2 (1.1, 1.3)	1 (0.85, 1.35)	1.4 (1.2, 1.6)	1.45 (1.05, 1.65)				
RCM												
pagetoid cells	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.13 (0.02, 0.4)	1 (0.87, 1)	0.68 (0.52, 0.82)	0.03/0.08
pagetoid spread (dendritic & round)	3 (75)	2 (50)	0 (0)	1 (100)	0 (0)	2 (13)	0 (0)	0 (0)	0.4 (0.16, 0.68)	0.92 (0.75, 0.99)	0.73 (0.57, 0.86)	<0.01/0.02
atypical melanocytes inside adnex	3 (75)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.2 (0.04, 0.48)	1 (0.87, 1)	0.71 (0.54, 0.84)	0.01/0.04
dendritic cells	3 (75)	2 (50)	4 (100)	0 (0)	0 (0)	7 (47)	2 (40)	0 (0)	0.6 (0.32, 0.84)	0.65 (0.44, 0.83)	0.63 (0.47, 0.78)	0.12/0.23
abnormal dendritic cells	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)	3 (20)	0 (0)	0 (0)	0.27 (0.08, 0.55)	0.88 (0.7, 0.98)	0.66 (0.49, 0.8)	0.06/0.15
inflammatory cells	1 (25)	0 (0)	2 (50)	0 (0)	2 (100)	1 (7)	2 (40)	0 (0)	0.33 (0.12, 0.62)	0.73 (0.52, 0.88)	0.59 (0.42, 0.74)	0.35/0.49
melanophages/bright cells	4 (100)	4 (100)	3 (75)	1 (100)	1 (50)	14 (93)	5 (100)	4 (67)	0.87 (0.6, 0.98)	0.12 (0.02, 0.3)	0.39 (0.24, 0.55)	0.21/0.36
regular honeycomb	1 (25)	2 (50)	4 (100)	1 (100)	2 (100)	15 (100)	3 (60)	6 (100)	0.47 (0.21, 0.73)	0.08 (0.01, 0.25)	0.74 (0.58, 0.87)	<0.01/0.02
atypical dysplastic honeycomb	1 (25)	2 (50)	4 (100)	1 (100)	2 (100)	0 (0)	2 (40)	3 (50)	0.67 (0.38, 0.88)	0.81 (0.61, 0.93)	0.76 (0.6, 0.88)	<0.01/0.02
cobblestone pattern DEJ	1 (25)	4 (100)	0 (0)	0 (0)	0 (0)	8 (53)	2 (40)	0 (0)	0.33 (0.12, 0.62)	0.62 (0.41, 0.8)	0.51 (0.35, 0.67)	1/1
junctional disarray	3 (75)	2 (50)	2 (50)	0 (0)	1 (50)	5 (33)	1 (20)	2 (33)	0.53 (0.27, 0.79)	0.69 (0.48, 0.86)	0.63 (0.47, 0.78)	0.12/0.23
non-edged papillae	4 (100)	3 (75)	0 (0)	0 (0)	0 (0)	4 (27)	0 (0)	0 (0)	0.47 (0.21, 0.73)	0.85 (0.65, 0.96)	0.71 (0.54, 0.84)	0.01/0.04
Medusa head	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.13 (0.02, 0.4)	1 (0.87, 1)	0.68 (0.52, 0.82)	0.03/0.08
cordlike cell aggregations in dermis	3 (75)	0 (0)	2 (50)	1 (100)	0 (0)	2 (13)	0 (0)	0 (0)	0.4 (0.16, 0.68)	0.92 (0.75, 0.99)	0.73 (0.57, 0.86)	<0.01/0.02
nucleated cells in derm pap	3 (75)	3 (75)	0 (0)	0 (0)	0 (0)	2 (13)	0 (0)	0 (0)	0.4 (0.16, 0.68)	0.92 (0.75, 0.99)	0.73 (0.57, 0.86)	<0.01/0.02
regular ringed/edged papillae DEJ	1 (25)	4 (100)	0 (0)	0 (0)	0 (0)	8 (53)	5 (100)	0 (0)	0.33 (0.12, 0.62)	0.5 (0.3, 0.7)	0.44 (0.28, 0.6)	0.53/0.68
sparse hyperreflective nests DEJ	1 (25)	3 (75)	0 (0)	0 (0)	0 (0)	8 (53)	0 (0)	0 (0)	0.27 (0.08, 0.55)	0.69 (0.48, 0.86)	0.54 (0.37, 0.69)	0.76/0.83
dense hyperreflective nests/cloj DEJ	1 (25)	2 (50)	0 (0)	0 (0)	0 (0)	4 (27)	0 (0)	0 (0)	0.2 (0.04, 0.48)	0.85 (0.65, 0.96)	0.61 (0.45, 0.76)	0.21/0.36
dense fenestrated pattern of collagen*	2 (50)	2 (50)	0 (0)	0 (0)	0 (0)	8 (53)	0 (0)	0 (0)	0.27 (0.08, 0.55)	0.69 (0.48, 0.86)	0.54 (0.37, 0.69)	0.76/0.83
dermal component of refractive cells	4 (100)	3 (75)	1 (25)	0 (0)	0 (0)	9 (60)	1 (20)	1 (17)	0.53 (0.27, 0.79)	0.58 (0.37, 0.77)	0.56 (0.4, 0.72)	0.53/0.68
peritumoral dark clefting	1 (25)	0 (0)	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.2 (0.04, 0.48)	1 (0.87, 1)	0.71 (0.54, 0.84)	0.01/0.04
peripheral palisading	0 (0)	0 (0)	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.27 (0.08, 0.55)	1 (0.87, 1)	0.73 (0.57, 0.86)	<0.01/0.02
dark islands	0 (0)	0 (0)	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.27 (0.08, 0.55)	1 (0.87, 1)	0.73 (0.57, 0.86)	<0.01/0.02
cauliflower like lesions	0 (0)	0 (0)	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.27 (0.08, 0.55)	1 (0.87, 1)	0.73 (0.57, 0.86)	<0.01/0.02
streaming	1 (25)	0 (0)	3 (75)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.27 (0.08, 0.55)	1 (0.87, 1)	0.73 (0.57, 0.86)	<0.01/0.02
PPC	2 (50)	0 (0)	0 (0)	0 (0)	2 (100)	1 (7)	4 (80)	1 (17)	0.27 (0.08, 0.55)	0.77 (0.56, 0.91)	0.59 (0.42, 0.74)	0.35/0.49
solar elastose	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	0.07 (0, 0.32)	0.96 (0.8, 1)	0.63 (0.47, 0.78)	0.12/0.23
Blood vessels												
BV inside tumour	2 (50)	2 (50)	4 (100)	1 (100)	2 (100)	6 (40)	4 (80)	2 (33)	0.73 (0.45, 0.92)	0.54 (0.33, 0.73)	0.61 (0.45, 0.76)	0.21/0.36
BV arborizing in tumor	0 (0)	0 (0)	4 (100)	1 (100)	1 (50)	0 (0)	0 (0)	0 (0)	0.4 (0.16, 0.68)	1 (0.87, 1)	0.78 (0.62, 0.89)	<0.01/0.02
BV enlarged diameter	1 (25)	2 (50)	4 (100)	1 (100)	2 (100)	5 (33)	3 (60)	2 (33)	0.67 (0.38, 0.88)	0.62 (0.41, 0.8)	0.63 (0.47, 0.78)	0.12/0.23
BV chaotic vessels	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	0.07 (0, 0.32)	0.96 (0.8, 1)	0.63 (0.47, 0.78)	0.12/0.23
UHR-OCT												
DEJ visible	1 (33)	0 (0)	1 (33)	0 (0)	1 (50)	3 (25)	1 (20)	1 (50)	0.25 (0.05, 0.57)	0.74 (0.49, 0.91)	0.55 (0.36, 0.73)	0.72/0.83
ovoid dark areas	0 (0)	0 (0)	3 (100)	0 (0)	1 (50)	1 (8)	0 (0)	0 (0)	0.25 (0.05, 0.57)	0.95 (0.74, 1)	0.68 (0.49, 0.83)	0.07/0.17
dark nests	1 (33)	2 (67)	2 (67)	1 (100)	1 (50)	10 (83)	2 (40)	1 (50)	0.58 (0.28, 0.85)	0.32 (0.13, 0.57)	0.42 (0.25, 0.61)	0.47/0.65
white halo	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0.08 (0, 0.38)	0.95 (0.74, 1)	0.61 (0.42, 0.78)	0.28/0.44
clefting	1 (33)	0 (0)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.25 (0.05, 0.57)	1 (0.82, 1)	0.71 (0.52, 0.86)	0.03/0.08
bright nests	1 (33)	2 (67)	0 (0)	0 (0)	1 (50)	6 (50)	0 (0)	0 (0)	0.33 (0.11, 0.65)	0.68 (0.43, 0.87)	0.55 (0.36, 0.73)	0.72/0.83
hyperreflec col	1 (33)	2 (67)	0 (0)	1 (100)	0 (0)	6 (50)	2 (40)	0 (0)	0.5 (0.21, 0.79)	0.58 (0.33, 0.8)	0.55 (0.36, 0.73)	0.72/0.83
round keratin dots	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (17)	5 (100)	0 (0)	0 (0, 0.26)	0.63 (0.38, 0.84)	0.39 (0.22, 0.58)	0.28/0.44
white streaks/granula	1 (33)	0 (0)	2 (67)	1 (100)	1 (50)	7 (58)	3 (60)	2 (100)	0.42 (0.15, 0.72)	0.37 (0.16, 0.62)	0.39 (0.22, 0.58)	0.28/0.44
marble like epidermis*	1 (33)	3 (100)	2 (67)	0 (0)	0 (0)	11 (92)	2 (40)	1 (50)	0.5 (0.21, 0.79)	0.26 (0.09, 0.51)	0.35 (0.19, 0.55)	0.15/0.29
tumour thickness (mm),med(Q1,Q3)	298 (259, 424)	232 (213, 234)	306 (254.5, 428)	550 (550, 550)	472 (433, 511)	512.5 (336.75, 550)	550 (476, 550)	236 (236, 236)				
C-OCT												
reg OCTA dot at 0.15 mm*	1 (25)	4 (100)	2 (50)	0 (0)	2 (100)	9 (60)	4 (80)	4 (67)	0.6 (0.32, 0.84)	0.35 (0.17, 0.56)	0.44 (0.28, 0.6)	0.53/0.68
OCTA mesh at 0.50 mm*	1 (25)	1 (25)	1 (25)	0 (0)	0 (0)	6 (40)	2 (40)	4 (67)	0.2 (0.04, 0.48)	0.54 (0.33, 0.73)	0.41 (0.26, 0.58)	0.35/0.49
ovoid dark areas	0 (0)	0 (0)	4 (100)	0 (0)	0 (0)	1 (7)	0 (0)	0 (0)	0.27 (0.08, 0.55)	0.96 (0.8, 1)	0.71 (0.54, 0.84)	0.01/0.04
dark nests	3 (75)	4 (100)	1 (25)	1 (100)	2 (100)	10 (67)	4 (80)	1 (17)	0.73 (0.45, 0.92)	0.42 (0.23, 0.63)	0.54 (0.37, 0.69)	0.76/0.83
white halo	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.07 (0, 0.32)	1 (0.87, 1)	0.66 (0.49, 0.8)	0.06/0.15
clefting	1 (25)	0 (0)	3 (75)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.27 (0.08, 0.55)	1 (0.87, 1)	0.73 (0.57, 0.86)	<0.0