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## Vascular Medicine

### PALMAR ARCH ANATOMY: AJMER WORKING GROUP CLASSIFICATION

Poster Contributions

Hall C

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**Background:** Forearm arteries frequently used as workhorse site for cardiac catheterization, bypass grafting and haemodialysis access. There is paucity of data on palmar circulation in live human being and only cadaveric data is available till date. We, therefore, made an attempt to look at the various pattern of sufficient or insufficient palmar arch circulation and various anomalies of forearm arteries, to discuss their clinical implications.

**Material and Methods:** We obtained the forearm & hand arteriograms of patients (n=302) through radial (n=200) and ulnar routes (n=102). Modified Allen's test (MAT) was normal in all of our patients.

**Results:** On the basis of palm angiograms superficial palmar arches (SPA) and deep palmar arches (DPA) were analysed. SPA was further divided into 3 groups as type A, type B, type C SPA.

Parameters	SPA (n=200)	DPA (n=102)	
Completeness of the SPA or DPA			
1. Complete arch	149	56	
2. Incomplete arch	51	16	
Dominance			
1. Radial artery	27	35	
2. Ulnar artery	145	33	
3. Co-dominance	28	5	
Atherosclerotic changes in arch vessels			
1. No atherosclerotic changes	127	44	
2. Localized atherosclerotic changes	48	19	
3. Diffuse atherosclerotic changes	25	7	
Slow flow distally			
1. Distal slow flow present	62	23	
2. Distal slow flow absent	138	47	
Average size of palmar arteries in mm (mean $\pm$ SD)	1.39 $\pm$ 0.36	1.44 $\pm$ 0.39	
Average size of digital arteries in mm (mean $\pm$ SD)	1.09 $\pm$ 0.32	1.12 $\pm$ 0.29	
Ulnar artery diameter in mm (mean $\pm$ SD)	2.11 $\pm$ 0.49	-	
Radial artery diameter in mm (mean $\pm$ SD)	-	2.56 $\pm$ 0.57	
Classification of superficial palmar arch			
Parameters (n=200)	Type A	Type B	Type C
Dominance	Co dominance (28)	Ulnar (145)	Radial (27)
Completeness of the SPA	Yes (149)	No (51)	
Diameter of both forearm vessels (>2.5 mm)	Yes (49)	No (151)	
Only one forearm vessel >2.5 mm	No	Yes	No
Both forearm vessels <2.5 mm	No		Yes
Atherosclerosis in SPA circulation	Absent (127)	Localized (48)	Diffuse (25)
Distal flow in SPA circulation	Normal (138)	Slow (62)	

**Conclusions:** We considered type A SPA to be most suitable for providing adequate collateral circulation in case of harvesting of forearm vessel, whereas type C SPA to be highly susceptible for digital ischemia in case of radial or ulnar artery occlusion. MAT alone is not justifiable for documenting good collateral circulation and it should be supplemented by other tests to document good collateral circulation before proceeding to any radical procedure.