

Are African Hernias different to European?

Report of a humanitarian mission with OperationHernia in Ghana in July 2011 ?



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Introduction

- Inguinal hernias seem to be 10 times more prevalent in Africa than in high income countries (Kingsnorth 2009) Many authors describe a much higher percentage of emergency cases as well as lethality rate.
- The medium age of treated Hernia patients is in Africa normally younger than in Europe (34 in Africa vs.62 in Europe). A high percentage of inguinoscrotal hernias of 69% in African comparing to 6% in European was observed (Sanders 2008)
- The percentage of indirect hernias is with 89.2% in African hernias much higher as in European. Hernias were additionally significantly larger (P = 0.01) and the patients were significantly thinner (P = 0.02) (Sanders 2008).
- In Africa 85% of the patients have a hernia more than 1 year and 37% of the patients have a hernia more than 5 years. 16% of the patients were unable to work and in 64% of the hernia limits daily activity. (Sanders 2008)
- The modified BASSINI Technique is described as being the most common technique by African surgeons since it is relatively easy to learn. (Kingsnorth 2009).

Author	Area/ Country	Year	Emergency cases rate	Bowl resection rate	Lethality rate	Wound infection rate
Ohene-Yeboah	Kumasi/ Ghana	2003	65% (71% inguinal, 10 % femoral)	24%	6%	
Mc Conkey	Sierra Leone	2002	25%	33%		
Odula	Uganda	2004	76%	(55% Incarceration rate)		7%
Adesunkanmi	Nigeria	2000	26%	13%		20%
Adesunkanmi	Nigeria	2000	25%			
Mbah	Nigeria	2007	20,6%		5,3%	

Tab. 1: Studies about African Hernia Surgery

Inguinal hernia cases	16372	100%
emergency cases	467	3%
cases with bowel resection	45	0.3%
letality	9	0.05%
Wound infections	68	0,4%

Tab. 2: Herniated Data (Germany) for inguinal hernias 2009-2012



Methods

During a Operation Hernia mission in July 2011 we treat all about 61 inguinal hernias in 3 different hospitals in Takoradi and Dixcove in Southern Ghana. We compare these results of the small African patient group with available actual data from the German Hernia Registry (Herniated-Data). We use for the African patients simultaneously two classifications.

type	subscription
H1	Inguinal reducible
H2	Inguinal non-reducible
H3 -10cm/20cm/30cm/xxcm	Inguinoscrotal reducible
H4 -10cm/20cm/30cm/xxcm	Inguinoscrotal non-reducible

Tab.3: Kingsnorth Classification of inguinal Hernias in Africa

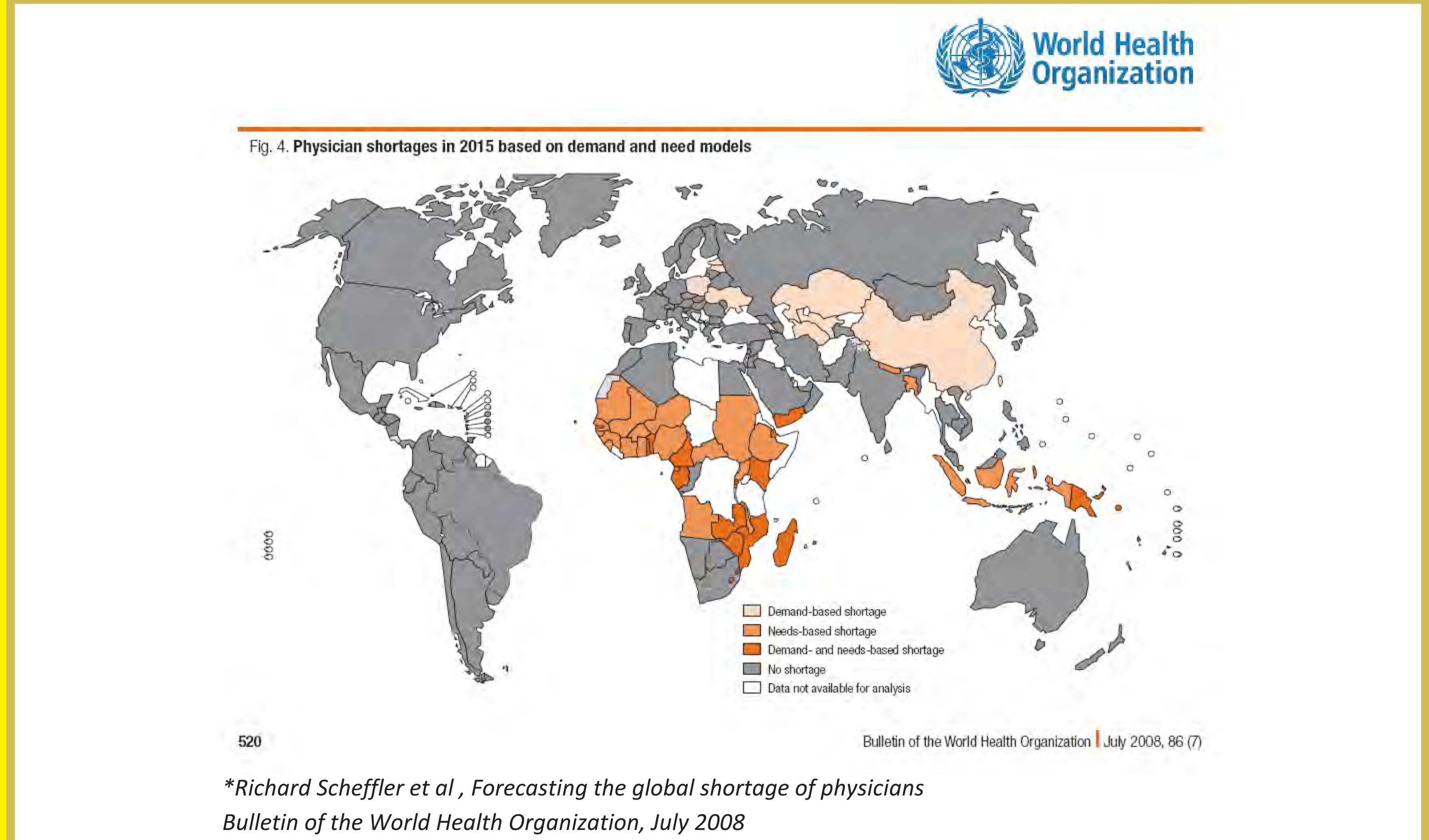
Lateral/medial/femoral/combined
I (<1,5 cm)
II (1,5-3 cm)
III (>3 cm)

Tab.4: European Hernia Society Classification of inguinal Hernias 2009



Summary

- The rate of emergency cases with incarcerated hernias and the lethality of hernias in Africa is much higher than in Europe. It is due to the limited access to surgery.
- There is a much higher percentage of indirect and inguinoscrotal hernias in Africa.
- The hernias in Africa are commonly associated with a hydrocele.



Results

- Operation duration:
 - Inguinal hernias = H1/2 (n=29) Ø 51 min
 - Inguinoscrotal hernias = H3/4 (n=32) Ø 68 min
- In 7 cases the inguinal hernia was simultaneous associated with an hydrocele.

Hernia-type	indirect (n = 50)			direct (n = 8)			Combined (n=3)		
	L1	L2	L3	M1	M2	M3	C1	C2	C3
H1	6	13	5	-	-	4	-	-	1
H2	-	-	-	-	-	-	-	-	-
H3-10	-	2	6	-	1	1	-	-	-
H3-20	-	2	9	-	-	1	-	-	-
H3-30	-	-	2	-	-	-	-	-	-
H4-10	-	-	2	-	1	-	-	-	-
H4-20	-	-	3	-	-	-	-	-	-
H4-30	-	-	-	-	-	-	-	-	2

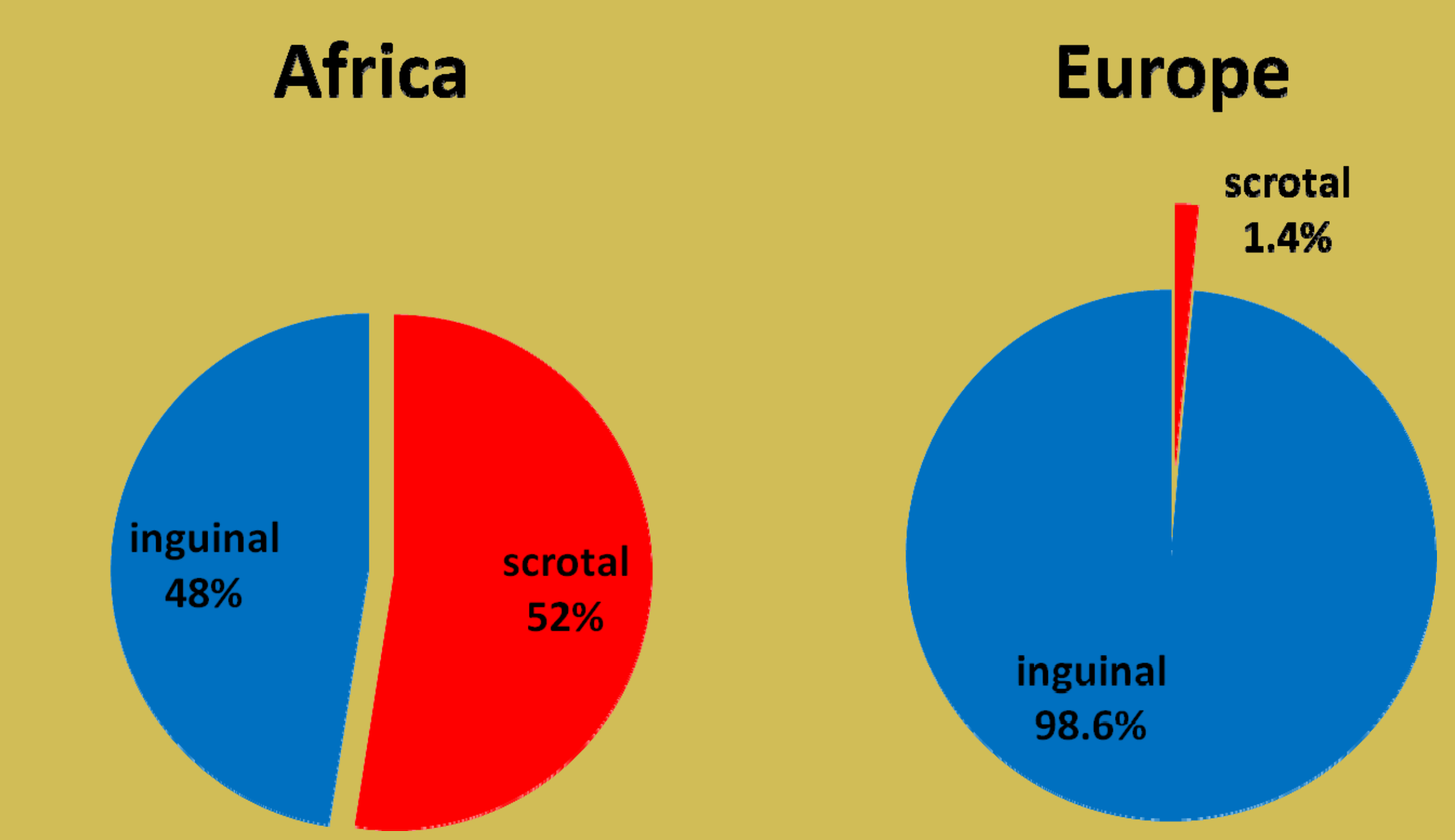
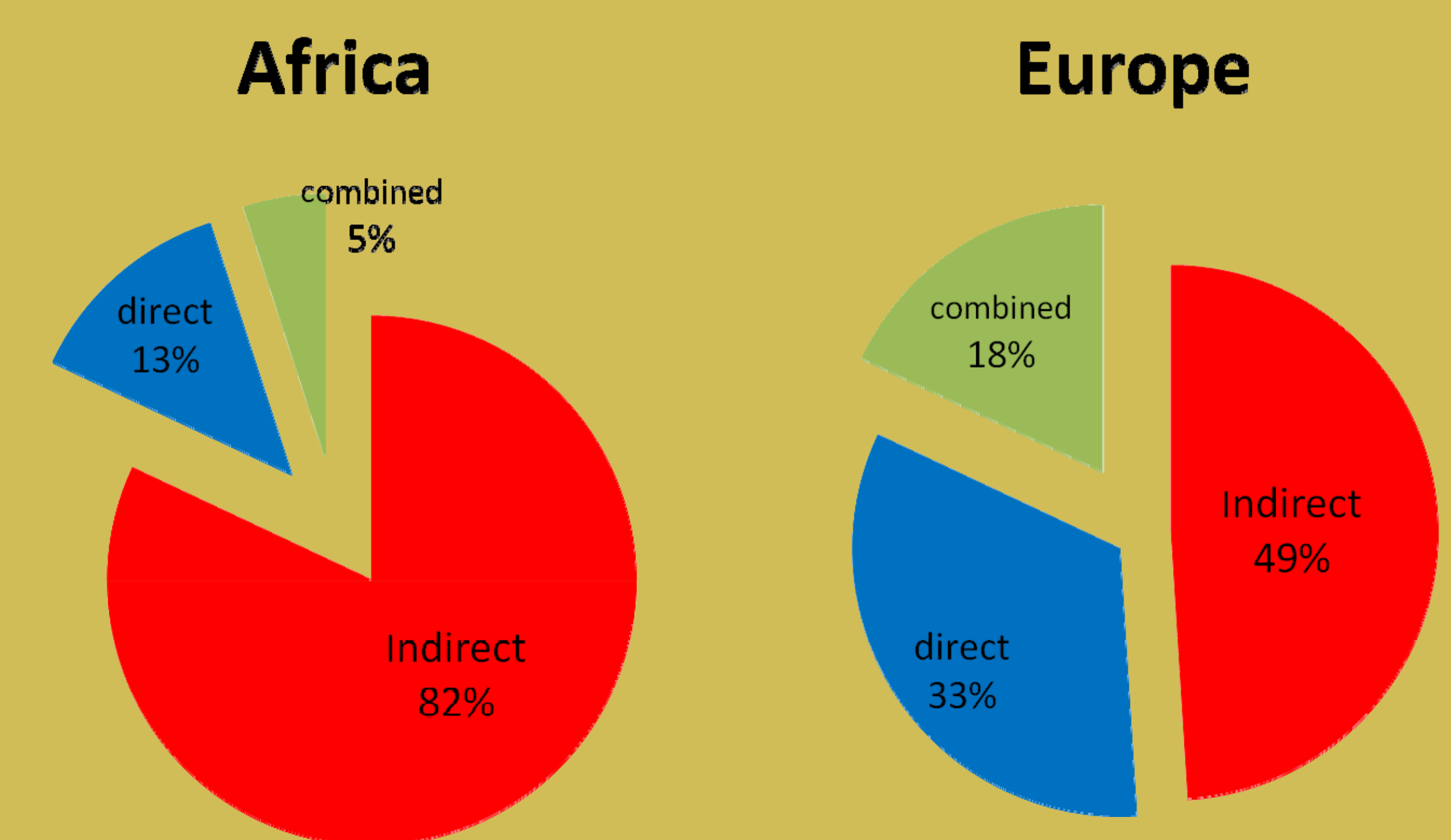
Tab.5: Results 18.07. bis 23.07.2011 Takoradi/Dixcove (n=61 hernias)

OP-Techniques	cases
MARCY	2
SHOULDICE	3
LICHTENSTEIN	23
RUTKOW /MILLIKAN -Plug and Patch	20
GILBERT /3-D-Meshes	6
PELISSIER /TIPP	7

Tab.6: own results - OP-Techniques

Inguinal hernias	13132	100%
medial	4065	31,0 %
Femoral	275	2,1%
Lateral	6269	47,7%
Scrotal	190	1,4%
combined	2333	17,8%

Tab. 7:Herniated-Data (Germany) for inguinal hernias



Open questions for the future

- Is the higher percentage of indirect hernias and the coincidence of hydroceles caused by differences in the anatomy of the inguinal area?
- Are there any differences in the collagen of African and European patients?
- Is Mesh in every hernia repair necessary?
- Which Hernia technique is best for African Patients?
- Which mesh size is indicated?
- There is a need for large scale data with outcome of the operations including chronic pain and recurrences

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