

**Appendix S4. Studies on surgical treatment of rectus diastasis without concomitant midline hernia (KQ 7).**

*Table S1. Studies on surgical treatment of rectus diastasis without concomitant midline hernia (KQ 7)*

Author, year (Ref. nº)	Type of study	Nº cases	Technique	Outcomes	Follow-up (months)	Recurrence rate (%)	Complications and/or results
Birdsell 1981 (69)	RCT	30 women	Group A:(15 p) open plication with 2/0 polyglycolic acid running suture Group B (15 p) open plication with 2/0 nylon running suture	Recurrence rate	6	0% in both groups	NR
Emanuelsson 2014 and 2016 (31, 57)	RCT	64 p (2 men, 62 women)	Group A (29 p): open retromuscular polypropylene lightweight mesh+ plication anterior rectus sheath 2/0 polydioxanone  Group B (28 p): Open double layer plication of anterior rectus sheath with barbed polydioxanone suture	Recurrence rate Complication Patient's satisfaction	12	Group A: 0%  Group B: 4%	Group A: wound infection 31%, seroma 17%, haematoma 7% 90% satisfied, 10% not satisfied  Group B: wound infection 18%, seroma 14% 82% satisfied, 18% not satisfied
Gama 2017 (70)	RCT	30 women	Group A: (10 p) open plication with two layers (first interrupted, second continuous) nylon suture  Group B: (10 p) open plication with single layer continuous nylon suture	Recurrence rate Operative time	6	Group A: 0%  Group B: 0%	Operative time of plication: Group A: 35 min P<0.001  Group B: 14 min

			Group C: (10 p) open plication with single layer continuous barbed suture			Group C: 30%	Group C: 15 min
Asaadi 1994 (75)	Case series	22 women	Open plication with nylon loop running suture	Recurrence rate	25	0%	NR
Zukowski 1998 (76)	Cohort retrospective	110 women	Group A (85) Intracorporeal laparoscopic assisted interrupted sutures  Group B (25): open plication	Complication	NR	NR	Group A: 2 skin necrosis, 3 neuralgias, 6 seromas  Group B: 1 skin necrosis, 1 wound infection, 1 hematoma
Van Uchelen 2001 (54)	Cohort retrospective	63 women	Open 1 layer continuous suture (57 Vicryl, 4 Prolene, 1 PDS, 1 Mersilene)	Recurrence rate	64	40%	Deep vein thrombosis 1.6% Skin hyposensibilitiy 71%
Nahas 2001 (71)	Cohort prospective	20 women	Group A (10 p): open plication in two layers nylon (first, interrupted; second, continuous)  Group B (10 p): open plication in two layers polydioxanone (first, interrupted; second, continuous)	Recurrence rate	6	Group A: 0%  Group B: 0%	NR
Nahas 2005 (72)	Cohort retrospective	12 women	Open plication in two layers nylon (first, interrupted; second, continuous)	Recurrence rate Complications	81	0%	1 seroma

Angio 2007 (78)	Case series	12 p (4 men/8 women)	Open Chevrel technique with interrupted non absorbable sutures + supraaponeurotic polypropylene mesh)	Recurrence rate Complication Cosmesis	24	0%	Seroma 25% Cosmesis: Excellent 82%/good 18%
Palanivelu 2009 (81)	Case series	18 p (5 men/13 women))	Laparoscopic plication with polyamide loop continuous suture (venetian blinds) + intraabdominal composite mesh)	Recurrence rate Complication Cosmesis	48	0%	Pain 11% Pneumonia 5% Chronic pain 11% Cosmesis: 100% satisfied
Nahas 2011 (73)	Cohort retrospective	12 women	Open plication in two layers polydioxanone (first, interrupted; second, continuous)	Recurrence rate	40	0%	NR
Rosen 2011 (74)	Cohort retrospective	34 women	Group A (17): open 2 layer running polydioxanone sutures  Group B (17): open 2 layer running absorbable barbed sutures	Recurrence rate	34	0%	Group A: 1 seroma  Group B: 1 infected hematoma, 2 seromas
Tadhiparti 2012 (55)	Case series	28 women	Open plication 1 layer continuous loop nylon suture	Recurrence rate	12	0%	1 pulmonary embolism 1 small wound dehiscence
Huguier 2012 (82)	Case series retrospective	10 women	Open plication + laparoscopic intraperitoneal composite mesh	Recurrence rate Complications Satisfaction	15	20%	1 hematoma, 1 fat necrosis  Satisfaction: very good 50%, good 40%
Mestak 2012 (53)	Case series retrospective	44 women	Open plication with interlocking continuous polydioxanone loop suture	Recurrence rate	12	0%	NR
Chang 2013 (77)	Case series	88 women	Endoscopic rectus plication with 2 layers of running sutures polypropylene 0 and 2/0	Complication	66	NR	Ecchymosis 10.2% Seroma 3.4%

De Castro 2013 (52)	Cohort retrospective	38 women	Open plication with interrupted sutures nylon2/0	Recurrence rate Complication	60	1 case (2.6%)	1 hematoma (needed surgery) 2 seromas
Cheesborough 2015 (79)	Cohort retrospective	5 p (3 women, 2 men)	Open retromuscular polypropylene mesh fixed with interrupted transrectal sutures + Closure of anterior rectus sheaths with interrupted polypropylene sutures	Recurrence rate Complications	14	0%	No separated results on patients with or without hernias
Shirah 2016 (80)	Cohort retrospective	216 p(31 men/185 women)	179 open surgery (retromuscular polypropylene mesh + plication with interrupted polypropylene sutures)  37 laparoscopic (plication with polypropylene loop continuous suture + intraperitoneal polypropylene mesh)	Recurrence rate Complications Cosmesis	24	0%	Open: wound infection 6%, seroma 5%, hematoma, foreign body sensation 1.7% Cosmesis: excellent/good 95.6%, unsatisfied 4.4%  Laparoscopic: pain 20.8%, foreign body sensation 8.1% Cosmesis: excellent/good 91.9%; unsatisfied 8.1%
Olsson 2019 (42)	Cohort prospective	15 women	Open double layer plication with continuous absorbable barbed sutures	Recurrence rate Complications Quality of life	12	0%	No separated results on patients with or without hernias