

Paper	Year	Country	N (total)	Median age (years)	Gender		Procedure	n	Outcome reported	Average follow up (months)
					Male	Female				
Afsarlar <i>et al</i>	2013	Turkey	15	14	8	7	Off midline primary closure	15	Recurrence, complications, length drain in situ, length of stay	4
Arda <i>et al</i>	2005	Turkey	14	15.4	12	2	Midline primary closure	14	Recurrence, complications	3
Ates <i>et al</i>	2018	Turkey	117	15.6	65	52	Minimally Invasive (Crystallized phenol)	40	Recurrence, complications, need for IV analgesia	8.1
							Midline primary closure	77		44.6
Braungart <i>et al</i>	2016	UK	19	15	9	10	Midline primary closure	19	Recurrence, complications	13
Butter <i>et al</i>	2006	Canada	8	NR	NR	NR	Excision + VAC	8	Recurrence, time to wound closure	Not reported
Caniano <i>et al</i>	2005	USA	21	16	NR	NR	Excision + VAC	21	Recurrence, complications	Not reported
Eposito <i>et al</i>	2017	Italy	15	16	9	6	Minimally invasive (Endoscopic)	15	Recurrence. wound healing, pain, length of stay, patient satisfaction	6
							Open healing	15		
Fike <i>et al</i>	2011	USA	120	14.9	50	70	Midline primary closure	74	Recurrence, wound breakdown, no. of follow up visits	Not reported
							Off midline primary closure	18		
							Other (not well defined)	21		
Gendy <i>et al</i>	2011	USA	70	16	49	21	Off midline primary closure	39	Recurrence, complications, primary wound healing incidence	19
							Open healing	37		45
Gonzales <i>et al</i>	2011	Spain	20	13.3	5	15	Midline primary closure	20	Recurrence, length of stay	Not reported
Lee <i>et al</i>	2008	USA	26	16.7	13	13	Marsupialisation	17	Recurrence, Time to wound closure, re-operative rate	6.4
							Primary closure (unspecified)	9		
Lukish <i>et al</i>	2009	USA	28	17.2	17	11	Midline primary closure	17	Recurrence	24.2
							Open healing	8		
Morden <i>et la</i>	2005	USA	68	13.8	30	38	Off midline primary closure	24	Recurrence, complications	49.4
							Midline primary closure	44		
Mutus <i>et al</i>	2018	Turkey	268	146	146	122	Midline primary closure	268	Recurrence, complications	Not reported
Nasr <i>et al</i>	2011	Canada	121	15	64	57	Open healing	90	Recurrence, time to healing	1.2
							Midline primary closure	4		
							Marsupialisation	13		
Ozcan <i>et al</i>	2017	Turkey	47	15.6	22	25	Open healing	11	Recurrence, length of stay, recovery time	43.2
							Midline primary closure	36		

Prato <i>et al</i>	2018	Italy	43	15	20	23	Minimally invasive (Endoscopic)	43	Recurrence, length of procedure, length of stay, reoperation rate	4
Rouch <i>et al</i>	2016	USA	39	16	19	20	Other (not well defined)	16	Recurrence, time to healing, re-operation	Not reported
							Marsupialisation	23		
Sequeira <i>et al</i>	2018	Portugal	84	16.2	61	23	Minimally Invasive (Endoscopic)	21	Recurrence, complications, healing time,	11.9
							Midline primary closure	63		
Serour <i>et al</i>	2002	Israel	34	16.4	20	14	Midline primary closure	34	Recurrence, complications	36
Smith <i>et al</i>	2015	UK	41	15	22	19	Minimally invasive (Fibrin glue obliteration)	10	Recurrence, wound dehiscence incidence	32
							Midline primary closure	5		
							Off midline primary closure	26		
Speter <i>et al</i>	2017	Israel	42		30	12	Minimally invasive (Minimal incision)	21	Recurrence, postoperative functional outcome, Reoperation rate	28 50
							Other (not well defined)	21		
Umesh <i>et al</i>	2018	USA	22	16	18	4	Off midline primary closure	22	Recurrence, complications, healing time, reoperation rate, patient satisfaction	44
Yamout <i>et al</i>	2009	USA	16	16	9	7	Off midline primary closure	54	Recurrence, complications	11
Yildiz <i>et al</i>	2014	Turkey	40	15.2	18	22	Midline primary closure	8	Complications, recurrence	5
							Off midline primary closure	32		
Zagory <i>et al</i>	2016	USA	60	15	25	35	Open healing	17	Recurrence, complication, length of stay, re-operation rate	53.88
							Midline primary closure	36		
							Off midline primary closure	7		

Table 1: Characteristics of included studies

Study	Confounding	Selection	Classification of Intervention	Deviation from intended intervention	Missing Data	Measurement of Outcomes	Reported Result	Overall
Afsarlar (2013)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Arda (2005)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Ates (2018)	Serious	Low	Low	Low	Low	Moderate	Moderate	Serious
Braungart (2016)	Moderate	Low	Low	Serious	Low	Moderate	Moderate	Serious
Butter (2006)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Caniano (2005)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Esposito (2017)	Serious	Low	Low	Low	Low	Moderate	Moderate	Serious
Fike (2011)	Serious	Serious	Serious	Low	Low	Moderate	Moderate	Serious
Gendy (2011)	Serious	Low	Low	Low	Low	Moderate	Moderate	Serious
Gonzalez-Temprano (2011)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Lee (2008)	Serious	Serious	Low	Low	Low	Moderate	Moderate	Serious
Lukish (2009)	Serious	Serious	Low	Low	Low	Moderate	Moderate	Serious
Morden (2005)	Serious	Serious	Low	Low	Low	Moderate	Moderate	Serious
Mutus (2018)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Nasr (2011)	Serious	Moderate	Low	Low	Low	Moderate	Moderate	Serious
Ozcan (2017)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Prato (2018)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Rouch (2016)	Moderate	Serious	Low	Low	Low	Moderate	Moderate	Serious
Sequeira (2018)	Moderate	Serious	Low	Low	Moderate	Moderate	Moderate	Serious
Serour (2002)	Moderate	Low	Low	Low	Low	Moderate	Moderate	Moderate
Smith (2015)	Moderate	Serious	Low	Low	Low	Moderate	Moderate	Serious
Speter (2017)	Serious	Low	Serious	Low	Moderate	Moderate	Moderate	Serious
Umesh (2018)	Moderate	Moderate	Low	Low	Moderate	Moderate	Moderate	Moderate
Yamout (2009)	Moderate	Serious	Low	Low	Low	Moderate	Moderate	Serious
Yildiz (2014)	Serious	Low	Low	Low	Low	Moderate	Moderate	Serious
Zagory (2016)	Serious	Serious	Low	Low	Low	Moderate	Moderate	Serious

Table 2: Risk of bias

Procedure	No of studies	Total No of patients	Recurrence		Wound complications		Wound Healing
			Pooled risk (%)	95% CI (%)	Pooled risk (%)	95% CI (%)	Range (median values - days)
Open Healing	6	191	26	15-38	21	9-36	38-92
Midline Primary closure	16	728	12	8-18	30	19-42	8-38
Off-midline primary closure	9	199	6	1-15	14	6-25	27
Excision and VAC	2	29	20	0-65	Not reported	Not reported	38-72
Minimally Invasive Techniques	6	150	7	1-16	Not reported	Not reported	21-30
Marsupialisation	3	53	6	0-22	Not reported	Not reported	6-41

Table 3: Summary of Findings