

Colorectal adenocarcinoma with clear cell changes. Immunohistological and molecular findings in three cases.
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Supplementary Table 1: Cases with colorectal and anal carcinomas with clear cell changes reported in the literature and present report (n=73). Epidemiological and pathological findings

Author (list of references see below)	Age/ Gender	Tumor localization	Metastases		Enteroblastic markers (AFP/ GPC3/SALL4) positive/negative/not done	Mutations in clear cell (CC) and conventional (CV) compartment
			Loco-regional lymph nodes	Distant		
Hellstrom and Fisher 1964	67 m	Rectum	Yes	No	N/A	N/A
Reed et al. 1983	71 m	Transverse colon	N/A	N/A	N/A	N/A
Jewell et al. 1988	75 m	Rectum	No	No	N/A	N/A
	56 f	Left colon			N/A	
Watson 1990	53 m	Anal canal	Yes	No	N/A	N/A
Hitti et al. 1990	39 f	Sigmoid	No	No	N/A	N/A
Rubio 1995	68 m	Left colon	Yes	Liver, lung	N/A	N/A
Sasaki et al. 1996	49 f	Rectum	N/A	N/A	N/A	N/A
Young and Hart 1998	33 f	Transverse colon	N/A	N/A	N/A	N/A
	33 f	Left colon	N/A	N/A	N/A	N/A
	49 f	N/A	N/A	N/A	N/A	N/A
	71 f	N/A	N/A	N/A	N/A	N/A
Furman and Lauwers 1999	N/A	Rectum	N/A	N/A	N/A	N/A
McCluggage et al. 2001	65 f	Rectum	Yes	Liver, lung, peritoneum, both adrenal glands, para-aortic lymph nodes	N/A	N/A
Braumann et al. 2004	89 m	Left colon	No	No	N/A	N/A
Mallik and Katchy 2005	36 f	Rectum	Yes	No	N/A	N/A
Ko et al. 2007	62 m	Left colon (intramucosal carcinoma)	not defined	not defined	N/A	N/A
Hao et al. 2007	37 m	Descending colon	Yes	N/A	N/A	N/A
Sawai 2007	56 f	Rectum	N/A	N/A	N/A	N/A
Honma 2007	50 f	Rectum	N/A	N/A	N/A	N/A
Barisella et al. 2008	54 m	Right colon	No	N/A	N/A	CC: KRAS p.G12V
Bressenot et al. 2008	84 f	Left colon	No	No	N/A	N/A
Pusztaszeri and Bouzourene 2008	62 m	Sigmoid	N/A	N/A	N/A	N/A
Soga et al. 2008	71 f	Right colon (intramucosal carcinoma)	not defined	not defined	N/A	N/A
Eloy et al. 2009	48 f	Transverse	not defined	not defined	N/A	N/A
	84 m	Colon (intramucosal carcinoma) Sigmoid (intramucosal carcinoma)	not defined	not defined	N/A	N/A
Finkelstein et al. 2010	41 f	Rectum	No	No		N/A

Shi et al. 2010	52 m	Rectum	N/A	N/A	N/A	N/A
	51 m	Sigmoid	N/A	N/A	N/A	N/A
	61 m	Sigmoid (intramucosal carcinoma)	not defined	not defined	N/A	N/A
	63 m	Rectum (intramucosal carcinoma)	not defined	not defined	N/A	N/A
	35 m	Sigmoid (intramucosal carcinoma)	not defined	not defined	N/A	N/A
Furuya et al. 2011	81 m	Ascending colon	Yes	Liver, lung, peritoneum	AFP+, GPC3N/A, SALL4N/A	N/A
Bakshi et al. 2012	42 m	Transverse colon/hepatic flexure	No	N/A	N/A	N/A
Kanstrup Fiehn et al. 2012	69 m	Sigmoid	Yes	No	N/A	CC: <i>KRAS</i> wildtype, MSS
Kyueng-whan 2013	50 f	Rectum	No	No	N/A	N/A
Min et al. 2013	50 f	Rectum	No	No	N/A	N/A
Barrera-Maldonado et al. 2014	41 f	Descending colon	Yes	No	N/A	N/A
Gurzu et al. 2014	82 m	Rectum	Yes	Liver	N/A	CC: <i>KRAS</i> codon 12 and 13
Thelin et al. 2014	25 m	Ascending colon/hepatic flexure	Yes	No	AFP+, GPC3N/A, SALL4N/A	N/A
Wang et al. 2014	26 m	Transverse colon/spleen flexure	N/A	No	N/A	N/A
Mhamdi et al. 2017	52 m	Sigmoid	Yes	No	N/A	N/A
Remo et al. 2017	58 m	Right colon	Yes	No	N/A	CC: <i>BRAF</i> V600E, <i>KRAS</i> wildtype, MSI-H
	79 m	Right colon	No	No	N/A	CC <i>KRAS</i> p.G12V, <i>BRAF</i> wild-type, MSS
Nakamura et al. 2018	68 m	Rectum	No	No	AFP+, GPC3+, SALL4+	N/A
Tochio et al. 2018	48 m	Descending colon (intramucosal carcinoma)	not defined	not defined	AFP-, GPC3-, SALL4-	N/A
Oyama et al. 2019	58 m	Sigmoid	N/A	No	AFP-, GPC3-, SALL4N/A	N/A
Murakami et al. 2020	52 f	Rectum	No	Lung	AFP+, GPC3+, SALL4+	N/A
	74 m	Sigmoid	Yes	No	AFP-, GPC3+, SALL4+	N/A
	59 m	Rectum	Yes	Liver	AFP-, GPC3+, SALL4-	N/A
	62 m	Sigmoid	Yes	Liver	AFP-, GPC3+, SALL4+	N/A
	84 f	Sigmoid	Yes	No	AFP-, GPC3-, SALL4+	N/A
Shiratori et al. 2020	80 m	Transverse colon (intramucosal carcinoma)	not defined	not defined	AFP-, GPC3+, SALL4-	N/A
Yamashiro et al. 2020 10 cases	\bar{x} 66.7 m (6 f (4)	Left colon (7) Right colon (3)	Yes (6 cases)	N/A	all cases with at least one marker positive	9 cases with <i>TP53</i> (CC and CV not differentiated) p.Pro152Leu c.455C>T and HER2+ (IHC 3 +) p.Val157Phe c.469G>T p.Arg273Cys c.817C>T p.Arg282Trp c.844C>T p.Ile195Thr c.584T>C p.Arg196Ter c.586C>T p.Arg273Cys c.817C>T and p.Ala161Thr c.481G>A p.Tyr163Cys c.488A>G p.Ser241Phe c.722C>T p.Val173Ala c.518T>C

Tochio et al. 2021	57 m	Transverse colon	N/A	N/A	AFP-, GPC3-, SALL4-	N/A
Abada et al. 2022	26 f	Sigmoid	N/A	Liver	AFP+, GPC3N/A, SALL4+	CC: <i>TP53</i> p.R175H, <i>KRAS</i> mutated (not specified), <i>MUTYH</i> p.G396D (exon 13), <i>KDM6A</i> p.S532fs (exon 16)
Giuseppe et al. 2022	71 m	Sigmoid	Yes	Liver	AFP+, GPC3+, SALL4+	CC: <i>KRAS</i> , <i>NRAS</i> , <i>BRAF</i> wildtype, MSS, HER2 overexpression (immunohistologically)
Karačić et al. 2022	65 m	Sigmoid	Yes	N/A	AFP-, GPC3N/A, SALL4N/A	N/A
Khefacha et al. 2022	75 f	Right Colon	No	No	N/A	N/A
Kihara et al. 2022	53 m	Rectum	Yes	No	AFP-, GPC3+, SALL4+	N/A
Li et al. 2023	65 m	Transverse colon	N/A	N/A	AFP+, GPC3N/A, SALL4N/A	N/A
Present study	70 m	Rectum	No	No	AFP+, GPC3+, SALL4-	CC and CV: <i>TP53</i> p.L265P, MSS
	69 m	Rectum	Yes	Liver	AFP-, GPC3+, SALL4-	CC and CV: <i>TP53</i> p.R158H, <i>TP53</i> p.R273H, MSS
	75 m	Ascending colon	No	No	AFP-, GPC3-, SALL4-	CC: <i>TP53</i> p.V173L, <i>SMAD4</i> p.F339L, MSS CV: <i>TP53</i> p.V173L, <i>ATM</i> p.V849A, MSS

Abbreviations: m male; f female; N/A not available; GPC3 glypican-3

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