

**16.13. プロトコール作成**

## プロトコール作成

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## 17. 研究結果の発表

主たる公表論文は英文誌に投稿する。

研究代表者または研究事務局による、研究のエンドポイントの解析結果を含まない、研究の紹介目的の学会・論文(総説)発表や、登録終了後の、患者背景の分布や安全性データの学会・論文発表は研究グループ代表者および JCOG データセンター長の了承を得て行うことができる。これらに該当しない、主たる解析と最終解析以外の発表については、事前に効果・安全性評価委員会の承認を得た場合を除いて行わない。

原則として、研究結果の主たる公表論文の著者は筆頭を研究事務局とし、以下、研究代表者、データセンターの統計担当(公表のための解析を行った時点での担当者 1 名)、グループ代表者の順とする。それ以下は、論文の投稿規定による制限に従って、登録数の多い順に施設研究責任者または施設コーディネーターを施設毎に選び共著者とする。

すべての共著者は投稿前に論文内容を review し、発表内容に合意した者のみとする。内容に関して、議論にても合意が得られない場合、研究代表者はグループ代表者の了承の上で、その研究者を共著者に含めないことができる。

学会発表は複数回に及ぶ可能性があるため、研究事務局、研究代表者、登録の多い施設の研究責任者または施設コーディネーターの中から、持ち回りで発表を行うこととする。発表者は研究代表者がグループ代表者の了承を得て決定する。ただし、学会発表に際しては、発表準備および発表内容について研究事務局が責任を持ち、原則としてデータセンターとの連絡は研究事務局が行う。研究事務局以外の発表者が、研究事務局と JCOG データセンター長の了承なく、直接データセンターから集計・解析結果を受け取ることはできない。

## 18. 参考文献

- <sup>1</sup>大腸癌取り扱い規約 2009年1月 第7版補訂版 大腸癌研究会編
- <sup>2</sup>Adson MA. Resection of liver metastases—when is it worthwhile? *World J Surg.* 11:511–20, 1987.
- <sup>3</sup>Docì R, Gennari L, Bignami P, et al. One hundred patients with hepatic metastases from colorectal cancer treated by resection: analysis of prognostic determinants. *Br J Surg* 78:797–801, 1991.
- <sup>4</sup>Bismuth H, Adam R, Lévi F, et al. Resection of nonresectable liver metastases from colorectal cancer after neoadjuvant chemotherapy. *Ann Surg* 224:509–20, 1996.
- <sup>5</sup>Tournigand C, André T, Achille E, et al. FOLFIRI followed by FOLFOX6 or the reverse sequence in advanced colorectal cancer: a randomized GERCOR study. *J Clin Oncol* 22:229–37, 2004.
- <sup>6</sup>Hurwitz H, Fehrenbacher L, Novotny W, et al. Bevacizumab plus irinotecan, fluorouracil, and leucovorin for metastatic colorectal cancer. *N Engl J Med.* 2004 Jun 3;350(23):2335–42
- <sup>7</sup>Köhne CH, Cunningham D, Di CF, et al. Clinical determinants of survival in patients with 5-fluorouracil-based treatment for metastatic colorectal cancer: results of a multivariate analysis of 3825 patients. *Ann Oncol* 13:308–17, 2002.
- <sup>8</sup>Tekkis PP, Prytherch DR, Kocher HM, et al. Development of a dedicated risk-adjustment scoring system for colorectal surgery (colorectal POSSUM). *Br J Surg* 91:1174–82, 2004.
- <sup>9</sup>Poultides GA, Servais EL, Saltz LB, et al. Outcome of primary tumor in patients with synchronous stage IV colorectal cancer receiving combination chemotherapy without surgery as initial treatment. *J Clin Oncol* 27(20):3379–84, 2009
- <sup>10</sup>Ruo L, Gougoutas C, Paty PB, et al. Elective bowel resection for incurable stage IV colorectal cancer: prognostic variables for asymptomatic patients. *J Am Coll Surg* 196:722–8, 2003.
- <sup>11</sup>Stelzner S, Hellmich G, Koch R, et al. Factors predicting survival in Stage IV colorectal carcinoma patients after palliative treatment: a multivariate analysis. *J Surg Oncol.* 89:211–7, 2005
- <sup>12</sup>Kleespies A, Füessl KE, Seeliger H, et al. Determinants of morbidity and survival after elective non-curative resection of stage IV colon and rectal cancer. *Int J Colorectal Dis.* 24:1097–109, 2009
- <sup>13</sup>Miyajima N, Fukunaga M, Hasegawa H, et al. Japan Society of Laparoscopic Colorectal Surgery. Results of a multicenter study of 1,057 cases of rectal cancer treated by laparoscopic surgery. *Surg Endosc.* 2009 Jan;23(1):113–8
- <sup>14</sup>Akasu T, Moriya Y: Abdominopelvic lymphadenectomy with autonomic nerve preservation for carcinoma of the rectum: Japanese experience ed. by Wanebo. *Surgery for gastrointestinal cancer: a multidisciplinary approach.* p667–680, Lippincott-Raven, Philadelphia, 1996
- <sup>15</sup>Yamamoto S, Fujita S, Akasu T, et al. Laparoscopic Surgery for Transverse and Descending Colon Carcinomas Has Comparable Safety to Laparoscopic Surgery for Colon Carcinomas at Other Sites. *Dig Surg.* 2010 Jan 8;26(6):487–492.
- <sup>16</sup>Guillou PJ, Quirke P, Thorpe H, et al. MRC CLASICC trial group. Short-term endpoints of conventional versus laparoscopic-assisted surgery in patients with colorectal cancer (MRC CLASICC trial): multicentre, randomised controlled trial. *Lancet.* 2005 May 14–20;365(9472):1718–26
- <sup>17</sup>National Comprehensive Cancer Network. [http://www.nccn.org/professionals/physician\\_gls/f\\_guidelines.asp](http://www.nccn.org/professionals/physician_gls/f_guidelines.asp)
- <sup>18</sup>Meta-Analysis Group In Cancer: Efficacy of intravenous continuous infusion of fluorouracil compared with bolus administration in advanced colorectal cancer. *J Clin Oncol* 16: 301–308, 1998
- <sup>19</sup>Saltz LB, Cox JV, Blanke C, et al. Irinotecan plus fluorouracil and leucovorin for metastatic colorectal cancer. Irinotecan Study Group. *N Engl J Med.* 2000 Sep 28;343(13):905–14.
- <sup>20</sup>Douillard JY, Cunningham D, Roth AD, et al. Irinotecan combined with fluorouracil compared with fluorouracil alone as first-line treatment for metastatic colorectal cancer: a multicentre randomized trial. *Lancet.* 2000 Mar 25;355(9209):1041–7.
- <sup>21</sup>Fuchs CS, Marshall J, Mitchell E, et al. Randomized, controlled trial of irinotecan plus infusional, bolus, or oral fluoropyrimidines in first-line treatment of metastatic colorectal cancer: results from the BICC-C Study. *J Clin Oncol.* 2007 Oct 20;25(30):4779–86.
- <sup>22</sup>Goldberg RM, Sargent DJ, Morton RF, et al. A randomized controlled trial of fluorouracil plus leucovorin, irinotecan, and oxaliplatin combinations in patients with previously untreated metastatic colorectal cancer. *J Clin Oncol.* 2004 Jan 1;22(1):23–30.
- <sup>23</sup>Colucci G, Gebbia V, Paoletti G, et al. Phase III randomized trial of FOLFIRI versus FOLFOX4 in the treatment of advanced colorectal cancer: a multicenter study of the Gruppo Oncologico Dell'Italia Meridionale. *J Clin Oncol.* 2005 Aug 1;23(22):4866–75.
- <sup>24</sup>Saltz LB, Clarke S, Díaz-Rubio E, et al. Bevacizumab in combination with oxaliplatin-based chemotherapy as first-line therapy in metastatic colorectal cancer: a randomized phase III study. *J Clin Oncol.* 2008 Apr 20;26(12):2013–9.
- <sup>25</sup>Fuchs CS, Marshall J, Barrueco J. Randomized, controlled trial of irinotecan plus infusional, bolus, or oral fluoropyrimidines in first-line treatment of metastatic colorectal cancer: updated results from the BICC-C study. *J Clin Oncol.* 26:689–90, 2008
- <sup>26</sup>Van Cutsem E, Labianca R, Bodoky G, et al. Randomized phase III trial comparing biweekly infusional fluorouracil/leucovorin alone or with irinotecan in the adjuvant treatment of stage III colon cancer: PETACC-3. *J Clin Oncol.* 27:3117–25, 2009.
- <sup>27</sup>Grothey A, Sugrue M M, Purdie D M, et al. Bevacizumab beyond first progression is associated with prolonged overall survival in metastatic colorectal cancer: results from a large observational cohort study (BRITE). *J Clin Oncol.* 26 5326–34, 2008.
- <sup>28</sup>Hochster HS, Hart LL, Ramanathan RK, et al. Safety and efficacy of oxaliplatin and fluoropyrimidine regimens with or without bevacizumab as first-line treatment of metastatic colorectal cancer: results of the TREE study. *J Clin Oncol.* 26 3523–9, 2008.
- <sup>29</sup>Hecht JR, Mitchell E, Chidiac T, et al. A randomized phase III trial of chemotherapy, bevacizumab, and panitumumab, compared with chemotherapy and bevacizumab alone for metastatic colorectal cancer. *J Clin Oncol.* 27 672–80, 2009.
- <sup>30</sup>Sobrero A, Ackland S, Clarke S, et al. Phase IV study of bevacizumab in combination with infusional fluorouracil, leucovorin and

irinotecan (FOLFIRI) in first-line metastatic colorectal cancer. *Oncology*. 77 113–9, 2009

<sup>31</sup> 宇良 敬. *日本癌治療学会誌* 41:321,2006

<sup>32</sup> CareNet, Inc. <http://www.carenet.com/index.php>

<sup>33</sup> Tournigand C, Cervantes A, Figer A, et al. OPTIMOX1: a randomized study of FOLFOX4 or FOLFOX7 with oxaliplatin in a stop-and-go fashion in advanced colorectal cancer—a GERCOR study. *J Clin Oncol*. 2006 Jan 20;24(3):394–400

<sup>34</sup> Van Cutsem E, Köhne CH, Hitre E, et al. Cetuximab and chemotherapy as initial treatment for metastatic colorectal cancer. *N Engl J Med*. 2009 Apr 2;360(14):1408–17

<sup>35</sup> Bokemeyer C, Bondarenko I, Makhson A, et al. Fluorouracil, leucovorin, and oxaliplatin with and without cetuximab in the first-line treatment of metastatic colorectal cancer. *J Clin Oncol*. 2009 Feb 10;27(5):663–71.

<sup>36</sup> Folprecht G, Gruenberger T, Bechstein WO, et al. Tumour response and secondary resectability of colorectal liver metastases following neoadjuvant chemotherapy with cetuximab: the CELIM randomised phase 2 trial. *Lancet Oncol*. 2010 Jan;11(1):38–47

<sup>37</sup> Jonker DJ, O'Callaghan CJ, Karapetis CS, et al. Cetuximab for the treatment of colorectal cancer. *N Engl J Med*. 2007 Nov 15;357(20):2040–8.

<sup>38</sup> Tomothy S et al. Oxaliplatin and fluoropyrimidine chemotherapy plus or minus cetuximab: The effect of infusional 5-FU or capecitabine on the outcomes of the MRC COIN trial in advanced colorectal cancer. ASCO-GI 2010 Abstract #402

<sup>39</sup> Sobrero AF, Maurel J, Fehrenbacher L, et al. EPIC: phase III trial of cetuximab plus irinotecan after fluoropyrimidine and oxaliplatin failure in patients with metastatic colorectal cancer. *J Clin Oncol*. 2008 May 10;26(14):2311–9.

<sup>40</sup> Cunningham D, Humblet Y, Siena S, et al. Cetuximab monotherapy and cetuximab plus irinotecan in irinotecan-refractory metastatic colorectal cancer. *N Engl J Med*. 2004 Jul 22;351(4):337–45.

<sup>41</sup> McCahill LE, et al. A phase II trial of 5-fluorouracil, leucovorin, and oxaliplatin (mFOLFOX6) chemotherapy plus bevacizumab (bev) for patients (pts) with unresectable stage IV colon cancer and a synchronous asymptomatic primary tumor: Results of NSABP C-10. ASCO 2010, #3527

<sup>42</sup> Hecht JR, Mitchell E, Chidiac T, et al. A randomized phase III B trial of chemotherapy, bevacizumab, and panitumumab compared with chemotherapy and bevacizumab alone for metastatic colorectal cancer. *J Clin Oncol*. 2009 Feb 10;27(5):672–80

<sup>43</sup> 大腸癌治療ガイドライン—医師用 2010年版 金原出版、東京、2010

<sup>44</sup> Scheer MG, Sloots CE, van der Wilt GJ, et al. Management of patients with asymptomatic colorectal cancer and synchronous irresectable metastases. *Ann Oncol*. 2008 Nov;19(11):1829–35.

<sup>45</sup> Bajwa A, Blunt N, Vyas S, et al. Primary tumour resection and survival in the palliative management of metastatic colorectal cancer. *Eur J Surg Oncol*. 2009 Feb;35(2):164–7.

<sup>46</sup> Nordlinger B, Van Cutsem E, Rougier P. Does chemotherapy prior to liver resection increase the potential for cure in patients with metastatic colorectal cancer? A report from the European Colorectal Metastases Treatment Group. *Eur J Cancer*. 2007 Sep;43(14):2037–45.

<sup>47</sup> Okines A, del Puerto O, Cunningham D, et al. Surgery with curative intent in patients treated with first-line chemotherapy plus bevacizumab for metastatic colorectal cancer First BEAT and the randomised phase-III NO16966 trial. *Br J Cancer*. 2009 Oct 6;101(7):1033–8.

<sup>48</sup> Adam R, Avisar E, Ariche A, et al. Five-year survival following hepatic resection after neoadjuvant therapy for nonresectable colorectal. *Ann Surg Oncol*. 2001 May;8(4):347–53.

<sup>49</sup> Benoist S, Brouquet A, Penna C, et al. Complete response of colorectal liver metastases after chemotherapy: does it mean cure? *J Clin Oncol*. 2006 Aug 20;24(24):3939–45.

<sup>50</sup> Douillard J Y, Siena S, Cassidy J, et al. Randomized, phase III trial of panitumumab with infusional fluorouracil, leucovorin, and oxaliplatin (FOLFOX4) versus FOLFOX4 alone as first-line treatment in patients with previously untreated metastatic colorectal cancer: the PRIME study. *J Clin Oncol*. 28 4697–705, 2010.

<sup>51</sup> Cook AD, Single R, McCahill LE. Surgical resection of primary tumors in patients who present with stage IV colorectal cancer: an analysis of surveillance, epidemiology, and end results data, 1988 to 2000. *Ann Surg Oncol*. 2005 Aug;12(8):637–45.

<sup>52</sup> Temple LK, Hsieh L, Wong WD, et al. Use of surgery among elderly patients with stage IV colorectal cancer. *J Clin Oncol*. 2004 Sep 1;22(17):3475–84.

<sup>53</sup> van Steenbergen L N, Elferink M A, Krijnen P, et al. Improved survival of colon cancer due to improved treatment and detection: a nationwide population-based study in The Netherlands 1989–2006. *Ann Oncol*. 21 2206–12.

<sup>54</sup> Ruo L, Gougoutas C, Paty PB, et al. Elective bowel resection for incurable stage IV colorectal cancer: prognostic variables for asymptomatic patients. *J Am Coll Surg*. 2003 May;196(5):722–8.

<sup>55</sup> Stillwell AP, Buettner PG, Ho YH. Meta-analysis of survival of patients with stage IV colorectal cancer managed with surgical resection versus chemotherapy alone. *World J Surg*. 2010 Apr;34(4):797–807

<sup>56</sup> Galizia G, Lieto E, Orditura M, et al. First-line chemotherapy vs bowel tumor resection plus chemotherapy for patients with unresectable synchronous colorectal hepatic metastases. *Arch Surg*. 2008 Apr;143(4):352–8

<sup>57</sup> Costi R, Di Mauro D, Giordano P, Leonardi F, Veronesi L, Sarli L, Roncoroni L, Violi V. Impact of palliative chemotherapy and surgery on management of stage IV incurable colorectal cancer. *Ann Surg Oncol*. 2010 Feb;17(2):432–40

<sup>58</sup> Gray JW. Evidence emerges for early metastasis and parallel evolution of primary and metastatic tumors. *Cancer Cell* 4:4–6, 2003

<sup>59</sup> Lin EH, Hassan M, Li Y, et al. Elevated circulating endothelial progenitor marker CD133 messenger RNA levels predict colon cancer recurrence. *Cancer*. 2007 Aug 1;110(3):534–42.

<sup>60</sup> Allegra CJ, Yothers G, O'Connell MJ, et al. Initial safety report of NSABP C-08: A randomized phase III study of modified FOLFOX6

with or without bevacizumab for the adjuvant treatment of patients with stage II or III colon cancer. *J Clin Oncol*. 2009 Jul;10;27(20):3385-90.

<sup>61</sup> Venderbosch S, de Wilt JH, Teerenstra S, et al. Prognostic value of resection of primary tumor in patients with stage IV colorectal cancer: retrospective analysis of two randomized studies and a review of the literature. *Ann Surg Oncol*. 2011 Nov;18(12):3252-60

<sup>62</sup> *Colorectal Cancer™ update*. 5 (4), 2006

<sup>63</sup> STEARNS MW Jr, BINKLEY GE. Palliative surgery for cancer of the rectum and colon. *Cancer*. 1954 Sep;7(5):1016-9.

<sup>64</sup> Seo GJ, Park JW, Yoo SB, Kim SY, Choi HS, Chang HJ, Shin A, Jeong SY, Kim DY, Oh JH. Intestinal complications after palliative treatment for asymptomatic patients with unresectable stage IV colorectal cancer. *J Surg Oncol*. 2010;102(1):94-9.

<sup>65</sup> Ali MK, Mountain CF, Ewer MS, Johnston D, Haynie TP. Predicting loss of pulmonary function after pulmonary resection for bronchogenic carcinoma. *Chest*. 1980 Mar;77(3):337-42

<sup>66</sup> Colice GL, Shafazand S, Griffin JP, Keenan R, Bolliger CT; American College of Chest Physicians. Physiologic evaluation of the patient with lung cancer being considered for resectional surgery: ACCP evidenced-based clinical practice guidelines (2nd edition). *Chest*. 2007 Sep;132(3 Suppl):161S-77S

<sup>67</sup> Cassidy J, Twelves C, Van Cutsem E et al. First-line oral capecitabine therapy in metastatic colorectal cancer: a favorable safety profile compared with intravenous 5-fluorouracil/leucovorin. *Ann Oncol* 2002; 13: 566-575.

<sup>68</sup> 制吐剤適正使用ガイドライン第1版 金原出版、東京、2010

<sup>69</sup> Tournigand C, Andre T, Achille E, et al. FOLFIRI followed by FOLFOX6 or the reverse sequence in advanced colorectal cancer: a randomized GERCOR study. *J Clin Oncol* 22; 229-237, 2004

<sup>70</sup> Schoenfeld DA, Richter JR. Nomograms for calculating the number of patients needed for a clinical trial with survival as an endpoint. *Biometrics* 1982;38(1):163-170.

<sup>71</sup> Lan KKG, DeMets DL. Discrete sequential boundaries for clinical trials. *Biometrika* 1983;70(3):659-663.

## 19. 附表 Appendix

- 説明文書・同意書
- 体表面積表
- 毒性規準 (CTCAE v4.0)
- CRF 一式

