

Année de publication : 2018

François-Clément Bidard, Stefan Michiels, Sabine Riethdorf, Volkmar Mueller, Laura J Esserman, Anthony Lucci, Bjørn Naume, Jun Horiguchi, Rafael Gisbert-Criado, Stefan Sleijfer, Masakazu Toi, Jose A Garcia-Saenz, Andreas Hartkopf, Daniele Generali, Françoise Rothé, Jeffrey Smerage, Laura Muinelo-Romay, Justin Stebbing, Patrice Viens, Mark Jesus M Magbanua, Carolyn S Hall, Olav Engebraaten, Daisuke Takata, José Vidal-Martínez, Wendy Onstenk, Noriyoshi Fujisawa, Eduardo Diaz-Rubio, Florin-Andrei Taran, Maria Rosa Cappelletti, Michail Ignatiadis, Charlotte Proudhon, Denise M Wolf, Jessica B Bauldry, Elin Borgen, Rin Nagaoka, Vicente Carañana, Jaco Kraan, Marisa Maestro, Sara Yvonne Brucker, Karsten Weber, Fabien Reyat, Dominic Amara, Mandar G Karhade, Randi R Mathiesen, Hideaki Tokiniwa, Antonio Llombart-Cussac, Alessandra Meddis, Paul Blanche, Koenraad d'Hollander, Cottu P, Park JW, Loibl S, Latouche A, Pierga JY, Klaus Pantel (2018 Apr 17)

Circulating Tumor Cells in Breast Cancer Patients Treated by Neoadjuvant Chemotherapy: A Meta-analysis.

Journal of the National Cancer Institute : DOI : [10.1093/jnci/djy018](https://doi.org/10.1093/jnci/djy018)

Résumé

We conducted a meta-analysis in nonmetastatic breast cancer patients treated by neoadjuvant chemotherapy (NCT) to assess the clinical validity of circulating tumor cell (CTC) detection as a prognostic marker.

Année de publication : 2017

G Beinse, F Berger, P Cottu, M-E Dujaric, I Kriegel, M-N Guilhaume, V Diéras, L Cabel, J-Y Pierga, F-C Bidard (2017 Aug 6)

Circulating tumor cell count and thrombosis in metastatic breast cancer.

Journal of thrombosis and haemostasis : *JTH* : 1981-1988 : DOI : [10.1111/jth.13792](https://doi.org/10.1111/jth.13792)

Résumé

Essentials Tumor cells circulating in blood (CTC) may favor thrombotic events in cancer patients. We assessed the impact of CTC on the risk of thrombosis in metastatic breast cancer. Baseline CTC detection was the only independent factor associated with the risk of thrombosis. CTC detection under therapy may be the hidden link between tumor progression & thrombosis.

Année de publication : 2016

H Bonnefoi, T Grellety, O Tredan, M Saghatchian, F Dalenc, A Mailliez, T L'Haridon, P Cottu, S

Abadie-Lacourtoisie, B You, M Mousseau, J Dauba, F Del Piano, I Desmoulins, F Coussy, N Madranges, J Grenier, F C Bidard, C Proudhon, G MacGrogan, C Orsini, M Pulido, A Gonçalves (2016 Apr 8)

A phase II trial of abiraterone acetate plus prednisone in patients with triple-negative androgen receptor positive locally advanced or metastatic breast cancer (UCBG 12-1).

Annals of oncology : official journal of the European Society for Medical Oncology / ESMO : 812-8
: [DOI : 10.1093/annonc/mdw067](https://doi.org/10.1093/annonc/mdw067)

Résumé

Several expression array studies identified molecular apocrine breast cancer (BC) as a subtype that expresses androgen receptor (AR) but not estrogen receptor α . We carried out a multicentre single-arm phase II trial in women with AR-positive, estrogen, progesterone receptor and HER2-negative (triple-negative) metastatic or inoperable locally advanced BC to assess the efficacy and safety of abiraterone acetate (AA) plus prednisone.

François Bertucci, Mahmoud Fekih, Aurélie Autret, Thierry Petit, Florence Dalenc, Christelle Levy, Gilles Romieu, Jacques Bonnetterre, Jean-Marc Ferrero, Pierre Kerbrat, Patrick Soulie, Marie-Ange Mouret-Reynier, Thomas Bachelot, Florence Lerebours, Jean-Christophe Eymard, Mathilde Deblock, Alain Lortholary, Anne-Claire Hardy-Bessard, Philippe Barthelemy, Hervé Bonnefoi, Emmanuelle Charafe-Jauffret, François-Clément Bidard, Patrice Viens, Jérôme Lemonnier, Jean-Yves Pierga (2016 Apr 2)

Bevacizumab plus neoadjuvant chemotherapy in patients with HER2-negative inflammatory breast cancer (BEVERLY-1): a multicentre, single-arm, phase 2 study.

The Lancet. Oncology : [DOI : S1470-2045\(16\)00011-5](https://doi.org/10.1016/S1470-2045(16)00011-5)

Résumé

Addition of bevacizumab to standard chemotherapy in the neoadjuvant setting in patients with HER2-negative metastatic breast cancer improves progression-free survival and the proportion of patients achieving pathological complete response. In the BEVERLY-1 (UCBG-0802) trial we aimed to assess the addition of bevacizumab to neoadjuvant and adjuvant chemotherapy in the treatment of patients with HER2-negative inflammatory breast cancer.

Emeline Tabouret, François Bertucci, Jean-Yves Pierga, Thierry Petit, Christelle Levy, Jean-Marc Ferrero, Mario Campone, Joseph Gligorov, Florence Lerebours, Henri Roché, Thomas Bachelot, Steven van Laere, Naoto T Ueno, Yves Toiron, Pascal Finetti, Daniel Birnbaum, Jean-Paul Borg, Patrice Viens, Olivier Chinot, Anthony Gonçalves (2016 Feb 28)

MMP2 and MMP9 serum levels are associated with favorable outcome in patients with inflammatory breast cancer treated with bevacizumab-based neoadjuvant chemotherapy in the BEVERLY-2 study.

Oncotarget : DOI : [10.18632/oncotarget.7612](https://doi.org/10.18632/oncotarget.7612)

Résumé

Addition of bevacizumab to trastuzumab-based neoadjuvant chemotherapy in HER2-positive inflammatory breast cancer (IBC) was associated with favorable outcome in the BEVERLY-2 phase II trial. Circulating levels of matrix metalloproteinases (MMP) 2 and 9 were correlated to high response rate and prolonged survival in high-grade glioma treated with bevacizumab. We examined the prognostic impact of MMP2 and MMP9 serum levels in BEVERLY-2 patients.

Francesca Riva, Oleksii I Dronov, Dmytro I Khomenko, Florence Huguet, Christophe Louvet, Pascale Mariani, Marc-Henri Stern, Olivier Lantz, Charlotte Proudhon, Jean-Yves Pierga, Francois-Clement Bidard (2016 Feb 10)

Clinical applications of circulating tumor DNA and circulating tumor cells in pancreatic cancer.

Molecular oncology : 481-93 : DOI : [10.1016/j.molonc.2016.01.006](https://doi.org/10.1016/j.molonc.2016.01.006)

Résumé

Pancreatic ductal adenocarcinoma (PDAC) is the most frequent pancreatic cancer type and is characterized by a dismal prognosis due to late diagnosis, local tumor invasion, frequent distant metastases and poor sensitivity to current therapy. In this context, circulating tumor cells and circulating tumor DNA constitute easily accessible blood-borne tumor biomarkers that may prove their clinical interest for screening, early diagnosis and metastatic risk assessment of PDAC. Moreover these markers represent a tool to assess PDAC mutational landscape. In this review, together with key biological findings, we summarize the clinical results obtained using « liquid biopsies » at the different stages of the disease, for early and metastatic diagnosis as well as monitoring during therapy.

Francois-Clement Bidard, Charlotte Proudhon, Jean-Yves Pierga (2016 Jan 27)

Circulating tumor cells in breast cancer.

Molecular oncology : 418-30 : DOI : [10.1016/j.molonc.2016.01.001](https://doi.org/10.1016/j.molonc.2016.01.001)

Résumé

Over the past decade, technically reliable circulating tumor cell (CTC) detection methods allowed the collection of large datasets of CTC counts in cancer patients. These data can be used either as a dynamic prognostic biomarker or as tumor material for « liquid biopsy ». Breast cancer appears to be the cancer type in which CTC have been the most extensively studied so far, with level-of-evidence-1 studies supporting the clinical validity of CTC count in

both early and metastatic stage. This review summarizes and discusses the clinical results obtained in breast cancer patients, the issues faced by the molecular characterization of CTC and the biological findings about cancer biology and metastasis that were obtained from CTC.

Wolfgang J Janni, Brigitte Rack, Leon W M M Terstappen, Jean-Yves Pierga, Florin-Andrei Taran, Tanja Fehm, Carolyn Hall, Marco R de Groot, François-Clement Bidard, Thomas W P Friedl, Peter A Fasching, Sara Y Brucker, Klaus Pantel, Anthony Lucci (2016 Jan 7)

Pooled Analysis of the Prognostic Relevance of Circulating Tumor Cells in Primary Breast Cancer.

Clinical cancer research : an official journal of the American Association for Cancer Research : 2583-93 : [DOI : 10.1158/1078-0432.CCR-15-1603](https://doi.org/10.1158/1078-0432.CCR-15-1603)

Résumé

Although unequivocal evidence has shown the prognostic relevance of circulating tumor cells (CTC) in the peripheral blood of patients with metastatic breast cancer, less evidence is available for the prognostic relevance of CTCs at the time of primary diagnosis.

Année de publication : 2015

Adrien Saliou, François-Clément Bidard, Olivier Lantz, Marc-Henri Stern, Anne Vincent-Salomon, Charlotte Proudhon, Jean-Yves Pierga (2015 Nov 17)

Circulating tumor DNA for triple-negative breast cancer diagnosis and treatment decisions.

Expert review of molecular diagnostics : 39-50 : [DOI : 10.1586/14737159.2016.1121100](https://doi.org/10.1586/14737159.2016.1121100)

Résumé

Triple-negative breast cancer (TNBC) is a highly aggressive disease characterized by a high number of relapses and poor overall survival. The heterogeneity of the disease and the limited treatment options compared to other breast cancer subtypes mainly explain these clinical outcomes. New biomarkers are urgently needed to improve the management of TNBC. Circulating tumor DNA, identified by tumor-related molecular alterations, could be used in the context of non-invasive « liquid biopsy » and help in TNBC diagnosis and treatment decisions. In this review, we discuss the key issues related to the potential of circulating tumor DNA to improve the management of this disease and the future steps to overcome before its implementation into clinical routine within the next 5 years.

Xavier Pivot, Thomas Suter, Jean Marc Nabholz, Jean Yves Pierga, Marc Espie, Alain Lortholary, David Khayat, Iris Pauporte, Gilles Romieu, Andrew Kramar, Pierre Fumoleau (2015 Jul 12)

Cardiac toxicity events in the PHARE trial, an adjuvant trastuzumab randomised phase III study.

European journal of cancer (Oxford, England : 1990) : 1660-6 : DOI : [10.1016/j.ejca.2015.05.028](https://doi.org/10.1016/j.ejca.2015.05.028)

Résumé

This article reports, the cardiac toxicity according to 6- versus 12-month durations of adjuvant trastuzumab in PHARE randomised trial (NCT00381901).

F-C Bidard, C K Y Ng, P Cottu, S Piscuoglio, L Escalup, R A Sakr, F Reyal, P Mariani, R Lim, L Wang, L Norton, V Servois, B Sigal, A Vincent-Salomon, B Weigelt, J-Y Pierga, J S Reis-Filho (2015 May 9)

Response to dual HER2 blockade in a patient with HER3-mutant metastatic breast cancer.

Annals of oncology : official journal of the European Society for Medical Oncology / ESMO : 1704-9 : DOI : [10.1093/annonc/mdv217](https://doi.org/10.1093/annonc/mdv217)

Résumé

HER3 activating mutations have been shown in preclinical models to be oncogenic and ligand-independent, but to depend on kinase-active HER2.

Francois-Clement Bidard, Jean-Yves Pierga (2015 Apr 15)

Clinical utility of circulating tumor cells in metastatic breast cancer.

Journal of clinical oncology : official journal of the American Society of Clinical Oncology : 1622 : DOI : [10.1200/JCO.2014.57.9714](https://doi.org/10.1200/JCO.2014.57.9714)

Résumé

C Helissey, F Berger, P Cottu, V Diéras, L Mignot, V Servois, C Bouleuc, B Asselain, S Pelissier, I Vaucher, J Y Pierga, F C Bidard (2015 Feb 22)

Circulating tumor cell thresholds and survival scores in advanced metastatic breast cancer: the observational step of the CirCe01 phase III trial.

Cancer letters : 213-8 : DOI : [10.1016/j.canlet.2015.02.010](https://doi.org/10.1016/j.canlet.2015.02.010)

Résumé

The clinical validity of circulating tumor cell (CTC) count changes during chemotherapy in metastatic breast cancer patients has been validated, but its clinical utility remains to be demonstrated. We report here the non-randomized run-in phase of the CirCe01 trial which was designed to evaluate CTC changes and thresholds to other palliative prognostic scores

and establish CTC thresholds to be used in the randomized part of the study. CTC count (CellSearch®) and other prognostic parameters (serum albumin level, lymphocyte level, LDH level, prognostic inflammatory and nutritional index (PINI) and Barbot's score) were assessed in 56 metastatic breast cancer patients before the first cycle of third line chemotherapy. Early changes of CTC count were correlated with treatment outcome. Independent prognostic markers in multivariate analysis were: low serum albumin (HR = 11.1), poor performance status (HR = 3.8), ≥ 5 CTC/7.5 ml (HR = 3.8) and triple negative subtype (HER2+ and hormone positive vs triple negative: both HR = 0.2). Among patients with ≥ 5 CTC/7.5 ml at baseline, a composite criteria (< 5 CTC/7.5 ml or relative decrease $\geq 70\%$ of the baseline CTC count) showed better prognostication for PFS ($p=0.002$).

Année de publication : 2014

Jean-Yves Pierga, Thierry Petit, Christelle Lévy, Jean-Marc Ferrero, Mario Campone, Joseph Gligorov, Florence Lerebours, Henri Roché, Thomas Bachelot, Emmanuelle Charafe-Jauffret, Jacques Bonnetterre, Juana Hernandez, François-Clément Bidard, Patrice Viens (2014 Dec 25)
Pathological response and circulating tumor cell count identifies treated HER2+ inflammatory breast cancer patients with excellent prognosis: BEVERLY-2 survival data.

Clinical cancer research : an official journal of the American Association for Cancer Research : 1298-304 : [DOI : 10.1158/1078-0432.CCR-14-1705](https://doi.org/10.1158/1078-0432.CCR-14-1705)

Résumé

The BEVERLY-2 single-arm phase II trial assessed the efficacy and safety of combining neoadjuvant chemotherapy with bevacizumab and trastuzumab for the treatment of HER2-positive inflammatory breast cancer (IBC). Here, we report the results of a preplanned survival analysis at 3 years of follow-up, along with the association between outcome and circulating biomarkers and pathologic complete response (pCR).

Bruno Coudert, Jean-Yves Pierga, Marie-Ange Mouret-Reynier, Kaldoun Kerrou, Jean-Marc Ferrero, Thierry Petit, Pierre Kerbrat, Pierre-François Dupré, Thomas Bachelot, Philippe Gabelle, Sylvia Giard, David Coeffic, Philippe Bougnoux, Jean-Briac Prevost, Gilles Paintaud, Gilles Thibault, Juana Hernandez, Mathieu Coudert, Laurent Arnould, Alina Berriolo-Riedinger (2014 Dec 3)
Use of [(18)F]-FDG PET to predict response to neoadjuvant trastuzumab and docetaxel in patients with HER2-positive breast cancer, and addition of bevacizumab to neoadjuvant trastuzumab and docetaxel in [(18)F]-FDG PET-predicted non-responders (AVATAXHER): an open-label, randomised phase 2 trial.

The Lancet. Oncology : 1493-502 : [DOI : 10.1016/S1470-2045\(14\)70475-9](https://doi.org/10.1016/S1470-2045(14)70475-9)

Résumé



Biomarqueurs tumoraux circulants

An effective and well tolerated treatment is needed for patients with early HER2-positive breast cancer who do not achieve a pathological complete response after neoadjuvant therapy. The AVATAXHER trial aimed to predict pathological complete response early with the use of PET and to investigate whether the addition of bevacizumab could improve the proportion of patients achieving a pathological complete response in patients unlikely to respond to treatment.