

A Cancer Institute's experience in the operational cancer clinical trial performance during the COVID-pandemic

Pr JY Blay

Disclosures

(presenter orange, institution grey)

Company	Scientific advice	Research support	Symposia & oral communications
Abbvie	X	X	
Amgen	X	X	X
ARIAD	X	X	
AstraZeneca		X	X
Bayer	X	X	X
BMS	X	X	X
DDB	X	X	
EISAI	X	X	X
Genomic Health		X	X
Gilead		X	X
GSK		X	X
Innate-Pharma	X	X	
Jansen		X	X
LILLY		X	X
Merck Serono		X	X
MSD		X	X
Nanobiotix	X	X	
Novartis	X	X	X
Novex		X	X
Onxeo	X		
Pfizer		X	X
Pharmamar	X	X	
PRA		X	
Roche	X	X	X
Sanofi Aventis		X	X
Swedish Orphan		X	X
Takeda		X	
Toray	X	X	

Incidence



Cases

150 M

Cured

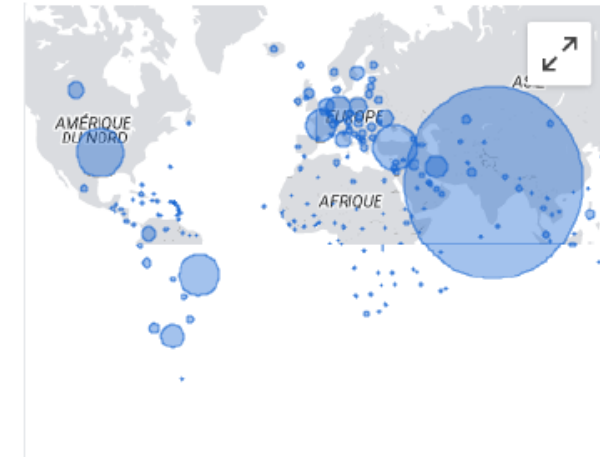
86,9 M

Deaths

3,15 M

- CLCC Lyon:

- Wave 1: 2,5% HCW, 4,3% of tested patients
- Wave 2: 3.9% HCW, 10,2% of tested patients



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

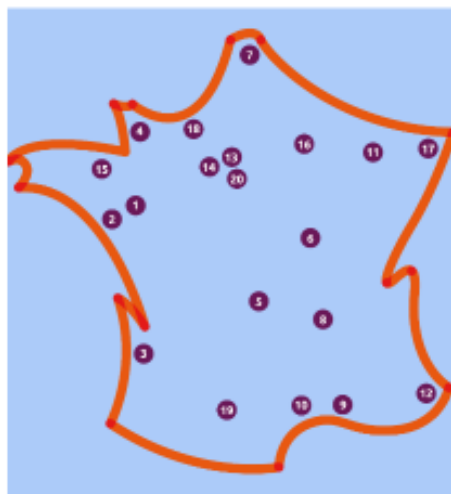
Humoral Immune Response to SARS-CoV-2
in Iceland

0.3%?

Numbers?

UNICANCER Comprehensive Cancer Centers

- 1-2. Institut de Cancérologie de l'Ouest - Unicancer Pays de la Loire
3. Institut Bergonié - Unicancer Nouvelle-Aquitaine
4. Centre François Baclesse - Unicancer Normandie-Caen
5. Centre Jean Perrin - Unicancer Clermont Auvergne Métropole
6. Centre Georges-François Leclerc - Unicancer Bourgogne Franche-Comté
7. Centre Oscar Lambret - Unicancer Hauts-de-France
8. Centre Léon Bérard - Unicancer Lyon Auvergne Rhône-Alpes
9. Institut Paoli-Calmettes - Unicancer Marseille
10. Institut du cancer de Montpellier
11. Institut de cancérologie de Lorraine (Nancy)
12. Centre Antoine Lacassagne - Unicancer Nice
- 13-14. Institut Curie - Unicancer Paris-Saint-Cloud-Orsay
15. Centre Eugène Marquis (Rennes)
16. Institut Godinot - Unicancer Reims en Champagne
17. Centre Paul Strauss - Unicancer Strasbourg
18. Centre Henri Becquerel - Unicancer Normandie-Rouen
19. Institut Claudius Regaud - IUCT-OncoPole (Toulouse)
20. Gustave Roussy (Villejuif)



Inclusions		
2018	2019	2020
1 054	1 537	1 316
409	338	431
180	143	100
669	479	410
778	704	488
1 235	1 429	1 612
1 014	878	722
1 019	1 426	1 238
514	532	375
409	669	2 552
124	369	580
972	1 313	1 317
19	63	97
155	149	64
431	269	188
167	48	202
899	715	560
2 290	3 359	2 157
12 338	14 420	14 409

COVID-19 in cancer patients?



Original Research

High mortality rate in cancer patients with symptoms of COVID-19 with or without detectable SARS-COV-2 on RT-PCR



Table 1
Characteristics of the patients.

Characteristics	All (N,%)	SARS-COV-2 RT-PCR		p
		Negative (n, %)	Positive (n, %)	
All	302 (100%)	247 (81.8%)	55 (18.2%)	
Female	158 (52.3%)	129 (52.2%)	29 (52.7%)	
Male	144 (47.7%)	118 (47.8%)	26 (47.3%)	0.93
Age (mean, SE)	58.2 (1.1)	56.9 (1.2)	63.8 (2.2)	0.006
>60	179 (59.3%)	139 (56.3%)	40 (72.7%)	0.02
Cancer type				
Solid tumours ^a	234 (77.5%)	199 (80.6%)	35 (63.6%)	
Haematological	68 (22.5%)	48 (19.4%)	20 (36.4%)	0.007
Lung	42 (13.9%)	35 (14.2%)	7 (12.7%)	0.78
KPS (mean, SE)	69.8 (1.1)	69.1 (1.2)	72.9 (2.8)	0.15
KPS<60	114 (37.7%)	97 (39.3%)	17 (30.9%)	0.25
BMI (mean, SE)	24.3 (0.3)	24.2 (0.34)	24.7 (0.58)	0.43
BMI>30	120 (39.7%)	100 (40.5%)	20 (36.4%)	0.57
Metastatic disease	161 (53.3%)	132 (53.4%)	29 (52.7%)	0.92
Relapsed disease	177 (58.8%)	146 (59.1%)	31 (56.4%)	0.71
Cancer treatment < 1 month	194 (64.2%)	165 (66.8%)	29 (52.7%)	0.049
Symptoms at entry				
Fever	191 (63.7%)	150 (61.2%)	41 (74.5%)	0.06
Cough	135 (45%)	96 (39.2%)	39 (70.9%)	0.000
Dyspnoea	94 (31.4%)	75 (30.6%)	19 (35.2%)	0.51
2 or more of the above	130 (43.5%)	94 (38.4%)	36 (66.7%)	0.000
Diarrhoea	42 (14.1%)	30 (12.3%)	12 (22.6%)	0.05
Anosmia/ageusia	21 (7%)	4 (1.6%)	17 (30.6%)	0.000
Neurological	7 (2.3%)	3 (1.2%)	4 (7.3%)	
COVID-19 suspect on CT scan	59 (29.5%)	32 (20.0%)	27 (67.5%)	0.000
CRP (mean, SE)	96.2 (6.4)	97.9 (6.9)	86.2 (17.3)	0.55
CRP>50	133 (54.1%)	115 (55.3%)	18 (47.4%)	0.36
CRP>200	40 (16.3%)	35 (16.8%)	5 (13.2%)	0.57
Lymphocyte counts (mean, SE)	1136 (45.4)	1142 (49.8)	1106 (112.1)	0.78
<700/ μ L	91 (33.5%)	78 (34.1%)	13 (30.2%)	0.57
<400/ μ L	33 (12.1%)	28 (12.2%)	5 (11.6%)	0.62

Solid tumours: breast adenocarcinoma (N = 42, 13.9%), colorectal adenocarcinoma (N = 18, 5.9%); soft tissue sarcomas (N = 15, 5.0%); renal cell carcinoma (N = 12, 4.0%); pancreas (N = 10, 3.3%); uterine (N = 9, 3.0%); bone (N = 7, 2.3%); peritoneal, oesophagus, adrenal (each N = 4, 1.3%); anal carcinoma, ovarian adeno carcinoma, prostate adenocarcinoma, testis adenocarcinoma, glioma (each N = 3, 1.0%); duodenum, parotid, maxillary sinus, supraglottis, thymoma, bladder carcinoma, CUP (each, N = 2, 0.7%). All other cancer types were N = 1 (0.3%).

KPS, Karnofsky performance status; CT, computed tomography; BMI, body mass index; CUP, carcinoma of unknown primary.

^a See legend for the different subtypes.



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ScienceDirect

journal homepage: www.ejancer.com

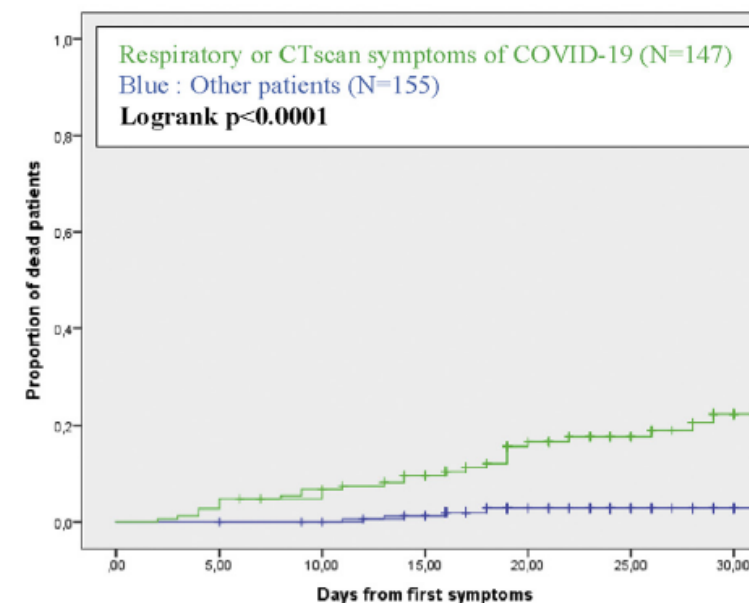


Original Research

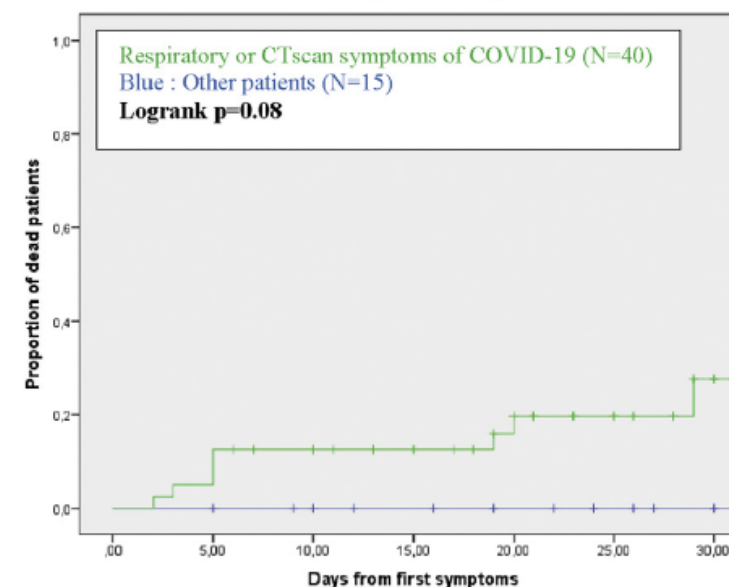
High mortality rate in cancer patients with symptoms of COVID-19 with or without detectable SARS-COV-2 on RT-PCR



A : All patients



B : SARS-COV2 RT-PCR+ cancer patients with or without clinical/radiological symptoms of COVID-19



Lower seroconversion rates

Lower detection rates of SARS-COV2 antibodies in cancer patients versus health care workers after symptomatic COVID-19

M. L. Solodky¹, C. Galvez¹, B. Russias¹, P. Detourbet¹,
V. N'Guyen-Bonin¹, A.-L. Herr¹, P. Zrounba¹ & J.-Y. Blay^{1,2,3*}

¹Centre Léon Bérard Cancer Center, Lyon;

²Université Claude Bernard Lyon I, Lyon;

³Unicancer, Paris, France

(*E-mail: jean-yves.blay@lyon.unicancer.fr).

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The rate of seroconversion 15 days after documented SARS-COV2 on RT-PCR was therefore significantly lower in cancer patients versus HCWs (30% versus 71%, $P = 0.04$). Importantly, six of the seven serodiagnostic-negative cancer patients had received cytotoxic therapy or major surgical intervention in the previous 4 weeks, compared with none of the five remaining patients ($P = 0.003$). None of these patients died.

- Using a point of care Ab Lateral Flow Immuno-Assay (TODA, Strasbourg France), humoral response to SARS-COV-2 were measured 15 days after COVID-19 diagnosis from April to June 2020 **in 486 patients and 791 health care workers (HCW) of this cancer center.**
- **21 (4.3%) patients and 16 (2.5%) health care workers (HCW)** had detectable SARS-COV-2 Ab. Among those with documented SARS-COV-2 on RT-PCR, 11/11 (100%) of HCW vs 11/21 (52%) of cancer patients had detectable Ab after 50 days ($p=0.006$), including only 28% of patients receiving cytotoxics in the previous month.

Mortality of patients with cancer presenting with symptoms of COVID-19 with vs without detectable SARS-COV-2: A nationwide prospective cohort study.

Short title: Mortality of patients with cancer with and without virologic confirmation of COVID-19

Authors•

Souad Assaad¹, Philippe Zrounba¹, Claire Cropet², Charlotte Faucher³, Bertrand Gachot⁴, Anne Laure Simonet-Lamm⁵, Stéphane Lepretre⁶, Dominique Vanjak⁷, Simon Pernot⁸, Fadila Chergui⁹, Laetitia Stefani¹⁰, Jocelyne Provencal¹¹, Thibault Le Bourgeois¹², Xavier Durando¹³, Julien Peron¹⁴, Roland Schott¹⁵, Guillaume Carbonnelle¹⁶, Magali Briere¹⁷, Blaha Belgadi¹⁸, Adeline Debreuve¹⁹, Marianne Hamon²⁰, Dominique Dramais²¹, Philippe Rochigneux²², Clémence Brac de la Perriere²³, Boris Campillo-Gimenez²⁴, Julien Gautier², Olivia Febvey², David Pérol² and Jean-Yves Blay¹¹ *for the investigators of the ONCOVID study.*

Background

This nationwide prospective cohort reports on the outcome of patients with cancer presenting COVID-19 symptoms with or without detectable SARS-COV2 on RT-PCR.

Methods

This prospective study was conducted in 23 Cancer Centers and hospitals. Inclusion criteria were :1) confirmed diagnosis of solid or hematologic cancer in treatment and 2) clinical symptoms of COVID-19. COVID-19 infection was defined as: 1) detectable SARS-CoV2 on RT-PCR (repeated twice if negative first) and/or specific CT-scan imaging if undocumented SARS-COV-2 on RT-PCR. The primary endpoint was death at day-28 after COVID-19 test, in patients with (COVID-19+ group) or without (COVID-19- group) documented COVID-19.

Findings

From March 1st 2020 to May 21st 2020, 1230 cancer patients with suspicion of COVID-19, including 1162 (94,5%) matching inclusion criteria were included. 425 (36-6%) [including 115 [11.6%] with diagnosis on CT-scan only], and 737 (63-4%) were in the COVID-19+ and COVID-19- groups respectively. Deaths within 28 days after COVID-19 diagnosis occurred in 116/425 (27.8%) of COVID-19+ patients, and in 118/737 (16%) of COVID-19 negative patients (p<0.001). With a follow-up of 2.1 (1-6-2-4) months, 143/425 (33.6%) deaths were reported in the COVID-19+ population: deaths were attributed to COVID-19 (N=73, 51.0%), cancer (N=50, 34.9%) or other causes (N=20, 13.9%). In the COVID-19 negative group, 167 deaths (22.6%) deaths were reported: 138 (82,7%) and 29 (17,3%) were attributed to cancer and other causes respectively. Male gender, age, metastatic disease, immunosuppressive treatments, lymphopenia, COVID-19 diagnosis and diabete were independent risk factors for death. In the COVID-19 + subgroup, 65/122 (53.3%) of patients with CRP>100mg/L vs 51/303 (16.8%) of other patients died before day 28 (p<0.001).

Interpretation

Patients with cancer presenting COVID-19 symptoms with or without detectable SARS-COV-2 on RT-PCR are both at high risk of early mortality. COVID-19 is reported as the cause of death in 50% of the COVID-19+ patients.

Figure 2. Overall survival in the global population and according to COVID-19 status.

A) COVID-19+ vs COVID-19 negative subgroups

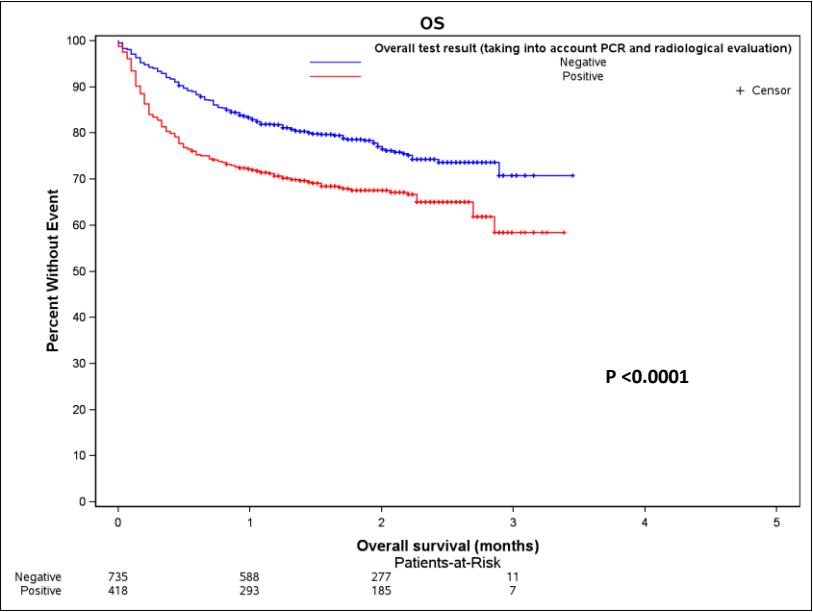
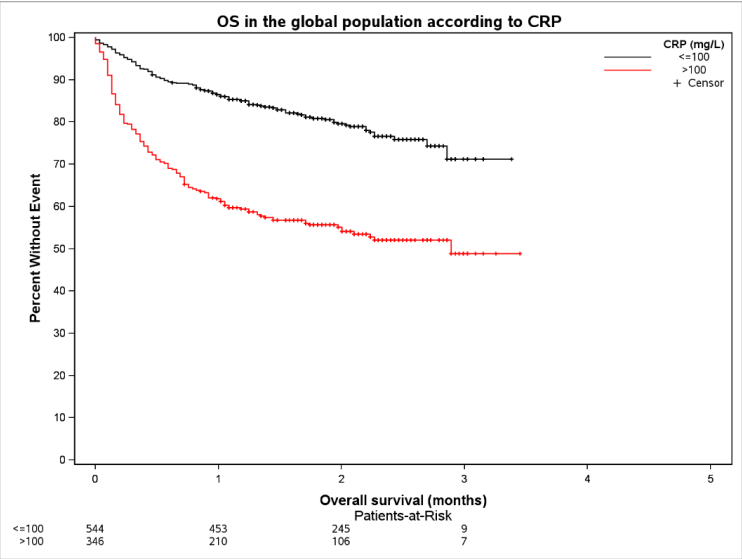
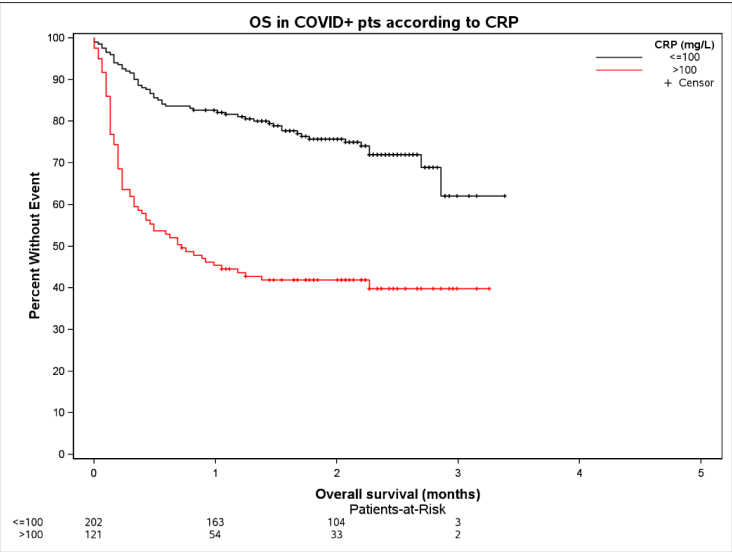
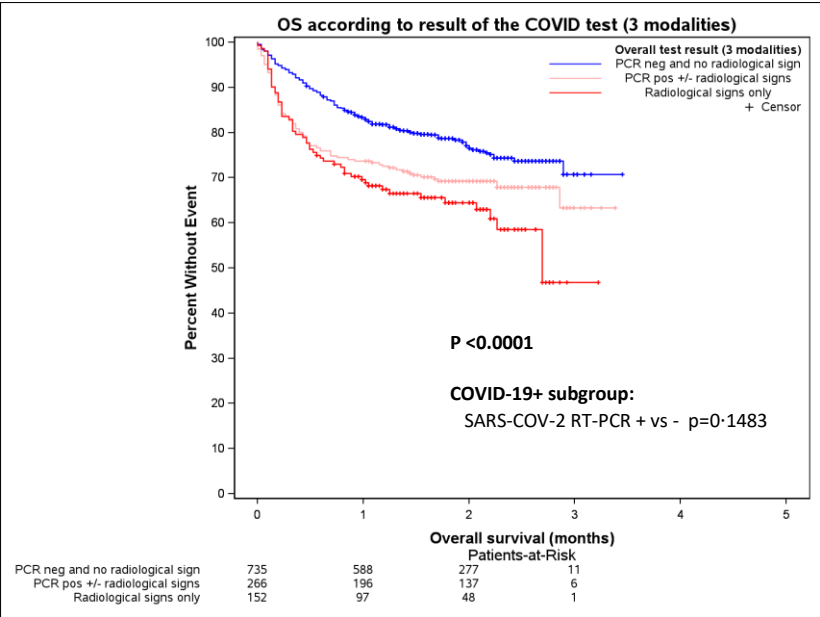


Figure 3 : Survival of the global and COVID-19+ groups and CRP levels

A. Overall population



B. COVID-19+ patients



Wave 1 vs Wave 2

Table 1: Characteristics of the SARS-COV-2 PCR+ patients in two periods

		Time Period		p
	All (N,%)	Jan-Jun 2020 (n, %)	Jul 2020-Jan2021 (n, %)	
Characteristics				
ALL	404 (100%)	63 (15.6%)	341 (84.4%)	
Female	210 (52.0%)	38 (60.3%)	172 (50.4%)	
Male	194(48.0%)	25 (39.7%)	169 (49.6%)	0.15
Age (mean, SE)	61.1 (15.7)	62.4 (15.1)	60.8 (15.8)	0.50
>65	187 (46.3%)	30 (47.6%)	33 (52.4%)	0.81
Cancer type				
Solid tumors*	325 (80.4%)	47 (74.6%)	278 (81.5%)	
Haematological	68 (22.5%)	16 (25.4%)	63 (18.5%)	0.20
Breast Ca	76 (18.8%)	8 (12.7%)	68 (19.9%)	0.18
Lung Ca	52 (12.9%)	10 (15.9%)	42 (12.3%)	0.43
BMI>30	50 (12.4%)	10 (15.0%)	40 (11.7%)	0.36
Metastatic disease	249 (61.6%)	33 (52.4%)	216 (63.3%)	0.10
Cytotoxic treatment<1 month	212 (52.5%)	26 (41.3%)	186(54.5%)	0.06
Immunotherapy <1 month	34 (8.4%)	5 (7.9%)	29 (8.5%)	0.88
Surgery<1 month	23 (5.7%)	7(11.1%)	16(4.7%)	0.08
Radiotherapy <1 month	27 (6.7%)	1(1.6%)	26(6.7%)	0.09
Cancer treatment<1 month	336 (83.2%)	54 (85.7%)	282 (82.7%)	0.55
CRP (mean, SE)	62.7 (80,0)	63.9 (77.8)	62.3 (80.9)	0.73
CRP>50	75 (39.7%)	15 (40.3%)	60 (47.4%)	
CRP>100	37 (19.6%)	39 (18.8%)	28 (13.2%)	0.63
Lymphocyte				
counts (mean, SE)	1.24 (0.96)	1,49 (1.35)	1.19 (0.86)	0,02
≤700/μL	167 (42.5%)	14 (26.9%)	153 (44.9%)	
≤400/μL	33 (12.1%)	7 (13.5%)	100 (29.3%)	0.03
Hospitalized				
during COVID-19	138 (34.2%)	29(46.0%)	109 (32.0%)	0.03
Dead @ day56	52 (12.2%)	14 (22.2%)	38 (11.1%)	0.01

Figure 1: Survival of patients with SARS-COV2 in the two time periods

Figure 1A: All patients

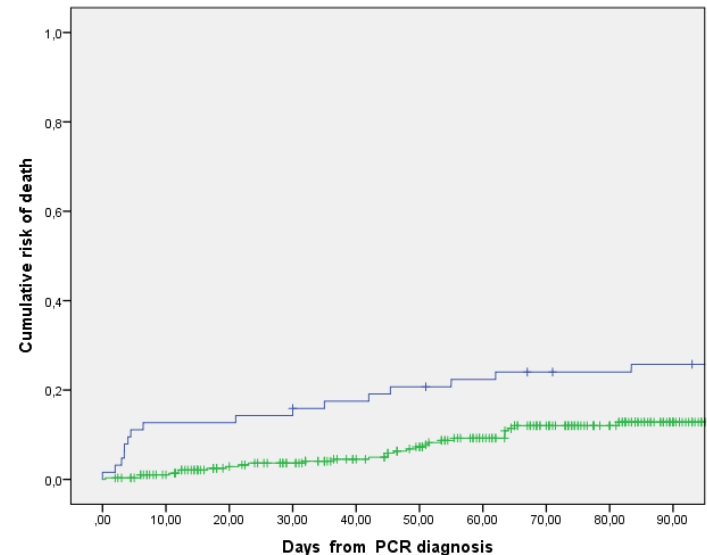
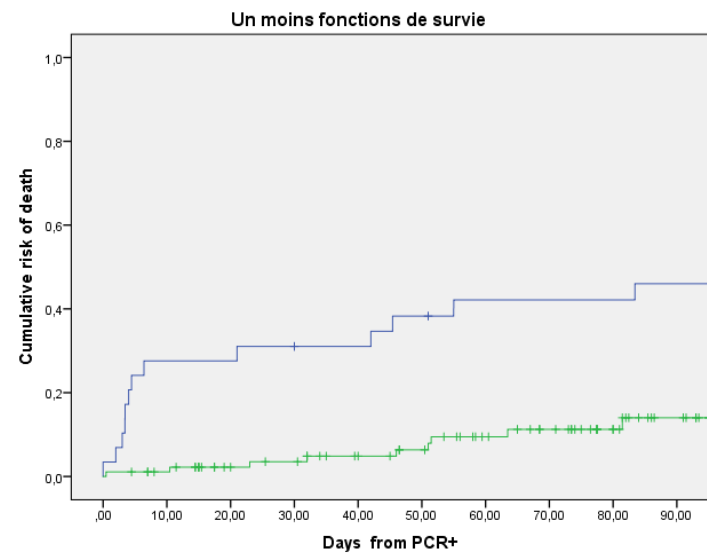


Figure 1B : Hospitalized patients



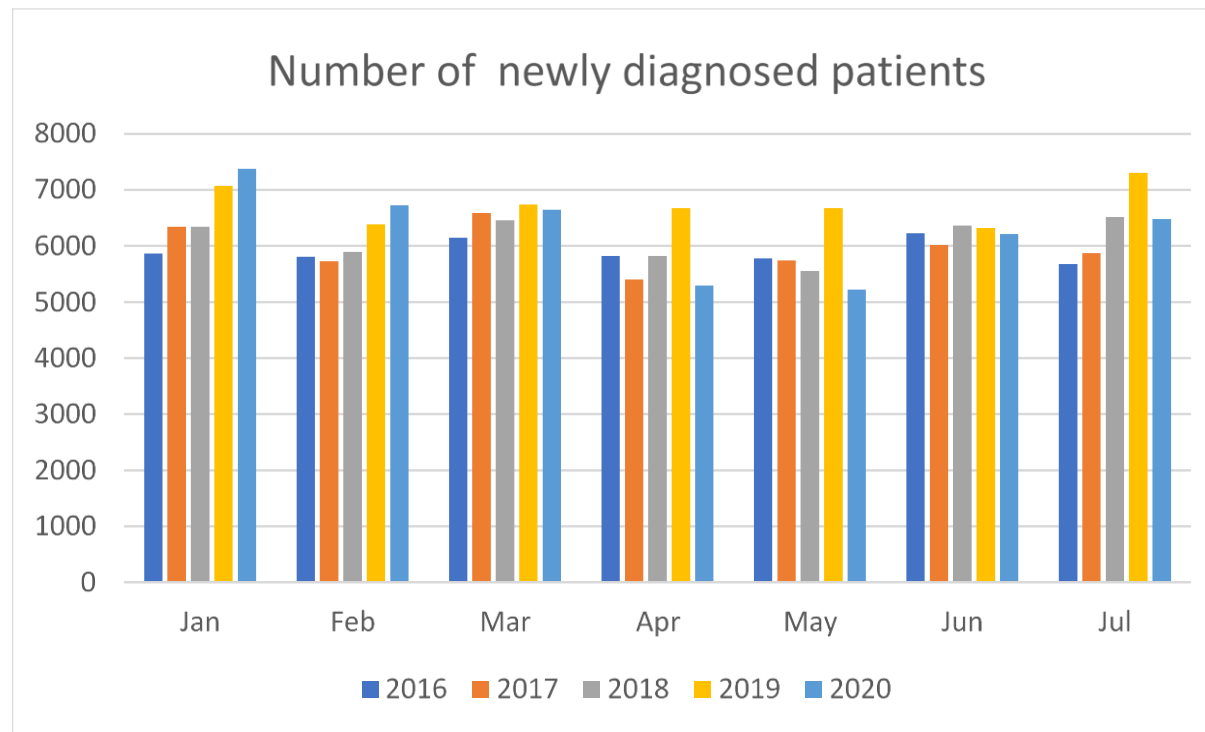
Delays to diagnosis and care?

Table 1: New diagnosed patients per months per center : high and low incidence zones of COVID-19

Centre	2019 01	2019 02	2019 03	2019 04	2019 05	2019 06	2019 07	2020 01	2020 02	2020 03	2020 04	2020 05	2020 06	2020 07	Total 2019	Total 2020	Ratio 2020/2019
1	316	257	302	314	291	281	310	300	274	278	201	211	265	287	2 071	1 816	0,88
2	234	253	297	255	260	277	297	310	244	304	179	223	253	280	1 873	1 793	0,96
3	379	326	392	338	408	340	395	391	368	378	299	320	357	334	2 578	2 447	0,95
4	224	228	234	247	209	208	243	281	255	246	194	208	208	134	1 593	1 526	0,96
5	284	240	279	309	253	241	326	307	256	266	210	218	238	250	1 932	1 745	0,90
6	274	281	286	258	285	281	336	294	304	287	291	238	265	278	2 001	1 957	0,98
7	513	471	549	534	493	436	574	509	525	482	389	365	494	502	3 570	3 266	0,91
8	415	356	350	359	352	337	394	399	379	401	298	287	359	345	2 563	2 468	0,96
9	676	564	589	581	598	555	622	587	600	625	395	438	455	490	4 185	3 590	0,86
10	345	321	328	314	334	298	350	344	339	285	279	244	324	346	2 290	2 161	0,94
11	766	750	702	708	764	682	752	785	695	664	520	461	595	686	5 124	4 406	0,86
12	298	245	283	267	269	304	284	328	274	242	228	259	238	288	1 950	1 857	0,95
13	424	362	329	330	307	321	380	389	312	250	241	255	337	353	2 453	2 137	0,87
14	613	538	583	583	586	556	642	606	572	609	563	490	551	600	4 101	3 991	0,97
15	438	380	365	382	381	354	415	399	366	415	339	308	392	371	2 715	2 590	0,95
16	181	176	198	183	180	176	198	196	194	191	123	127	208	214	1 292	1 253	0,97
17	496	435	475	492	488	466	506	500	488	462	335	367	413	440	3 358	3 005	0,89
Total	7 069	6 384	6 736	6 673	6 672	6 319	7 306	7 378	6 725	6 645	5 296	5 218	6 208	6 477	47 159	43 947	0,93

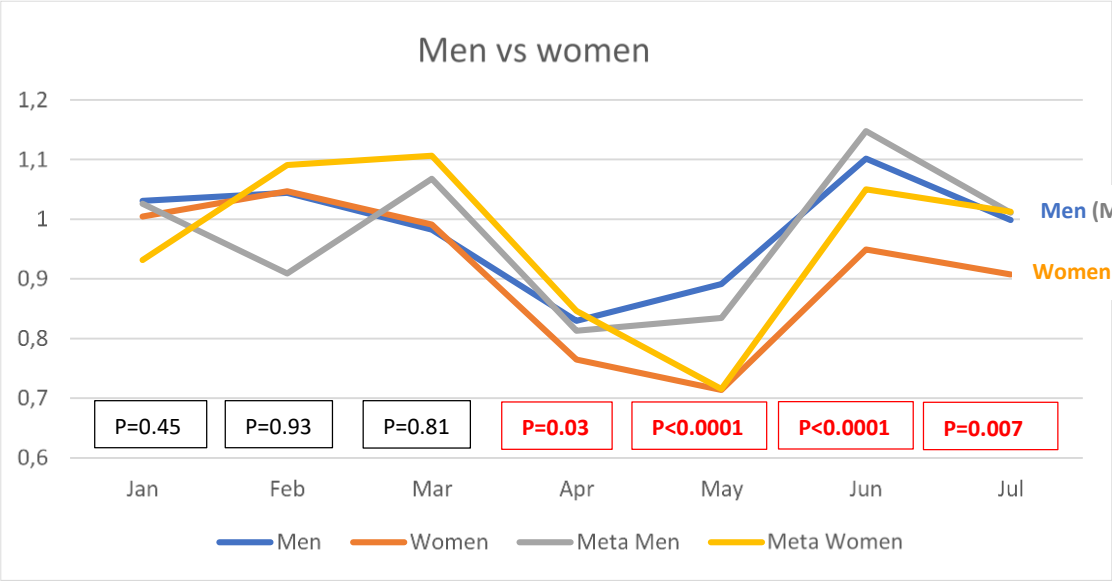
UNICANCER Comprehensive Cancer Centers

Figure 1 : Number of newly diagnosed patients from 2016 to 2020

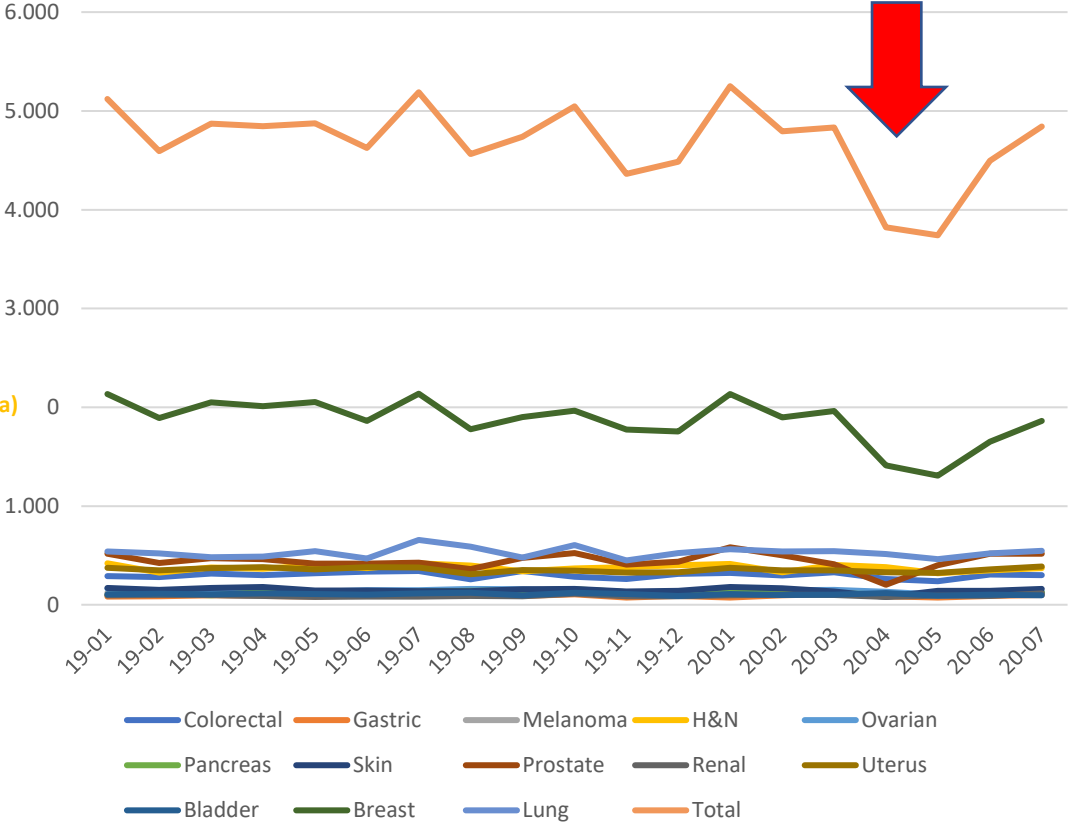


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A: 2020 vs 2019



Number of new diagnosis from Jan 2019 to Jul 2020





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FAST TRACK

Mortality due to cancer treatment delay: systematic review and meta-analysis

Timothy P Hanna,^{1,2,3} Will D King,³ Stephane Thibodeau,² Matthew Jalink,^{1,2} Gregory A Paulin,² Elizabeth Harvey-Jones,⁴ Dylan E O'Sullivan,³ Christopher M Booth,^{1,2,3,5} Richard Sullivan,⁶ Ajay Aggarwal^{4,6,7}

ABSTRACT

OBJECTIVE

To quantify the association of cancer treatment delay and mortality for each four week increase in delay to inform cancer treatment pathways.

DESIGN

Systematic review and meta-analysis.

DATA SOURCES

Published studies in Medline from 1 January 2000 to 10 April 2020.

ELIGIBILITY CRITERIA FOR SELECTING STUDIES

Curative, neoadjuvant, and adjuvant indications for surgery, systemic treatment, or radiotherapy for cancers of the bladder, breast, colon, rectum, lung, cervix, and head and neck were included. The main outcome measure was the hazard ratio for overall survival for each four week delay for each indication. Delay was measured from diagnosis to first treatment, or from the completion of one treatment to the start of the next. The primary analysis only included high validity studies controlling for major prognostic factors. Hazard ratios were assumed to be log linear in relation to overall survival and were converted to an effect for each four week delay. Pooled effects were estimated using DerSimonian and Laird random effect models.

RESULTS

The review included 34 studies for 17 indications (n=1 272 681 patients). No high validity data were found for five of the radiotherapy indications or for cervical cancer surgery. The association between delay and increased mortality was significant ($P<0.05$) for 13 of 17 indications. Surgery findings were consistent, with a mortality risk for each four week delay of 1.06-

1.08 (eg, colectomy 1.06, 95% confidence interval 1.01 to 1.12; breast surgery 1.08, 1.03 to 1.13). Estimates for systemic treatment varied (hazard ratio range 1.01-1.28). Radiotherapy estimates were for radical radiotherapy for head and neck cancer (hazard ratio 1.09, 95% confidence interval 1.05 to 1.14), adjuvant radiotherapy after breast conserving surgery (0.98, 0.88 to 1.09), and cervix cancer adjuvant radiotherapy (1.23, 1.00 to 1.50). A sensitivity analysis of studies that had been excluded because of lack of information on comorbidities or functional status did not change the findings.

CONCLUSIONS

Cancer treatment delay is a problem in health systems worldwide. The impact of delay on mortality can now be quantified for prioritisation and modelling. Even a four week delay of cancer treatment is associated with increased mortality across surgical, systemic treatment, and radiotherapy indications for seven cancers. Policies focused on minimising system level delays to cancer treatment initiation could improve population level survival outcomes.

Table 2 : Estimated excess risk of cancer deaths due to delays in diagnosis and treatment in view of the UNICANCER observations of March-July 2020

A : Calculated number of additional cancer deaths nationwide with an hazard ratio of 1.06 for risk of death per month of delay (ref x) for the period from March 2020 to July 2020.

Additional% of patients with delays	0%	-5%	-10%	-15%	-20%	-25%
Additional months of delay						
0	1024	1478	1932	2387	2841	3295
1	1381	1992	2604	3215	3827	4438
2	1746	2517	3289	4060	4832	5603
3	2116	3051	3985	4919	5824	6788
4	2492	3592	4692	5791	6891	7990

B : Calculated number of excess cancer deaths with an hazard ratio of 1.02 for risk of death per month of delay for the period from March 2020 to July 2020.

Additional% of patients with delays	0%	-5%	-10%	-15%	-20%	-25%
Additional Months of delay						
0	338	488	638	788	938	1088
1	454	654	855	1056	1256	1457
2	570	822	1074	1325	1577	1829
3	688	991	1294	1597	1901	2204
4	806	1161	1516	1872	2227	2582

C: Calculated number of additional cancer deaths nationwide with an hazard ratio of 1.1 for risk of death per month of delay for the period from March 2020 to July 2020.

Additional% of patients with delays	0%	-5%	-10%	-15%	-20%	-25%
Additional Months of delay						
0	1715	2476	3237	3998	4759	5520
1	2322	3349	4376	5404	6431	7458
2	2941	4241	5540	6839	8138	9437
3	3570	5145	6719	8294	9868	11443
4	4202	6053	7905	9756	11608	13459

Impact on accrual and activation?

Inclusion in a single center

Sites	N inclusions 2019	N Inclusions 2020
Multisites	782	688
Breast	300	338
Urological cancers	158	110
Pediatric cancers	109	80
Digestive cancers	103	97
Gynecological cancers	95	97
Hematological cancers	81	49
Sarcomas	67	59
Head and Neck	65	59
Lung	45	32
TOTAL	1821	1624

In 2019, N= 238 open trials, with N=69 newly opened trials
In 2020, N= 212 open trials, with N=76 newly opened trials

Phase I studies:

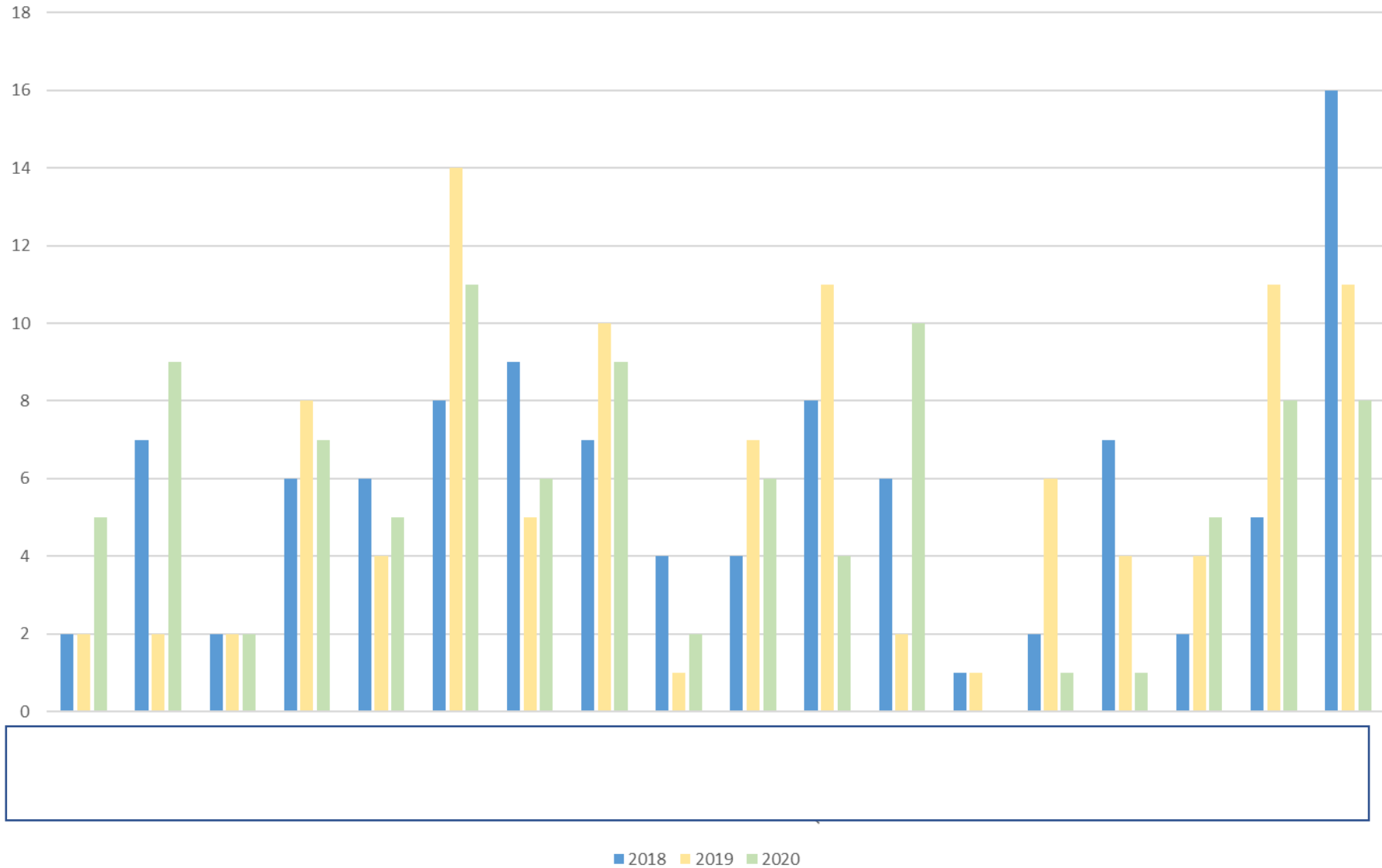
2019 : New trials N=11, Inclusions=103

2020 : New trials N=6, Inclusions=89

Observational studies : N=**200** (2019); N=**857** (2020)

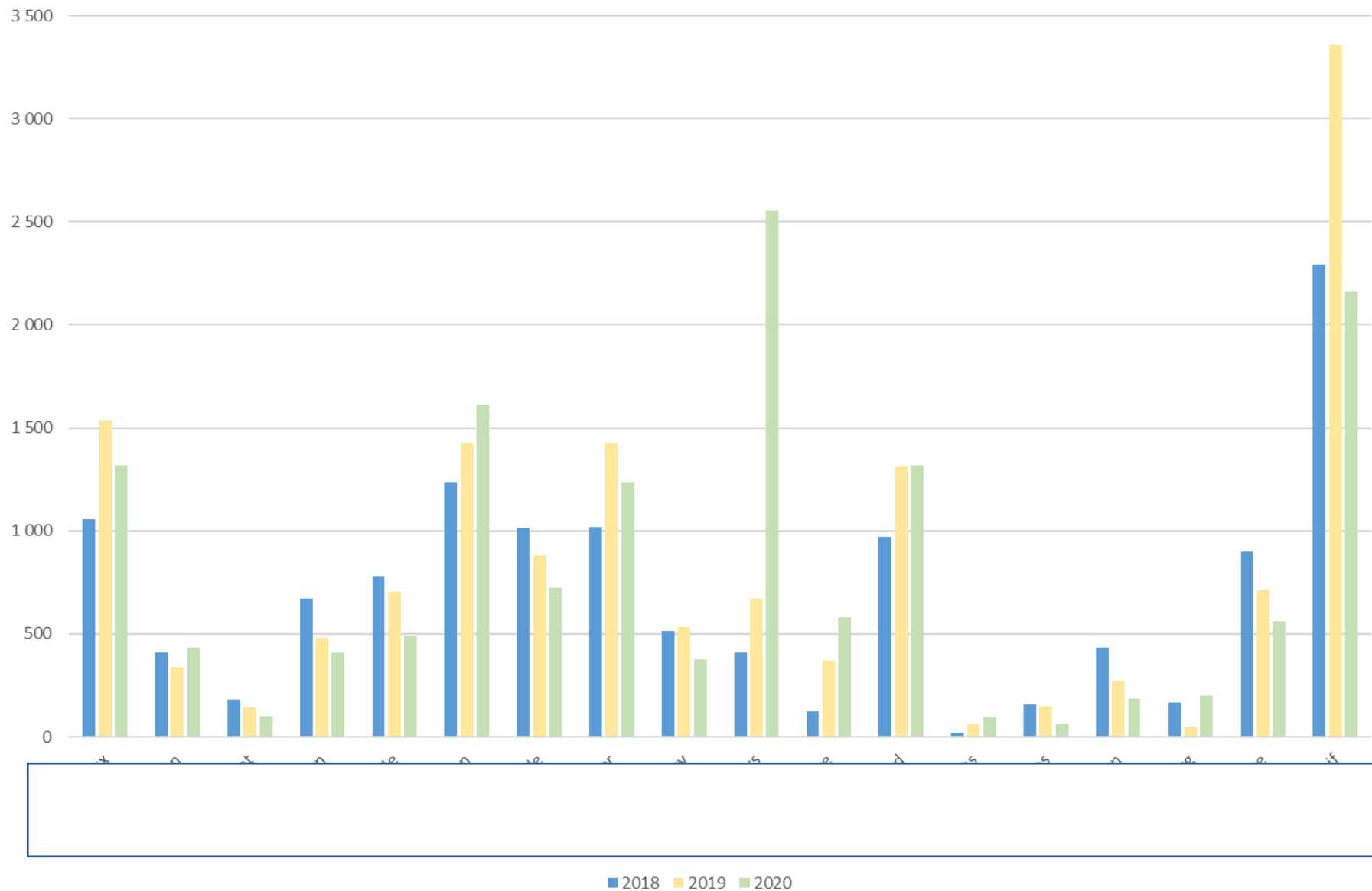
Sponsorship - N trials opened

N=99 in 2020 vs 2018 (N)=102) vs 2019 (N=105)



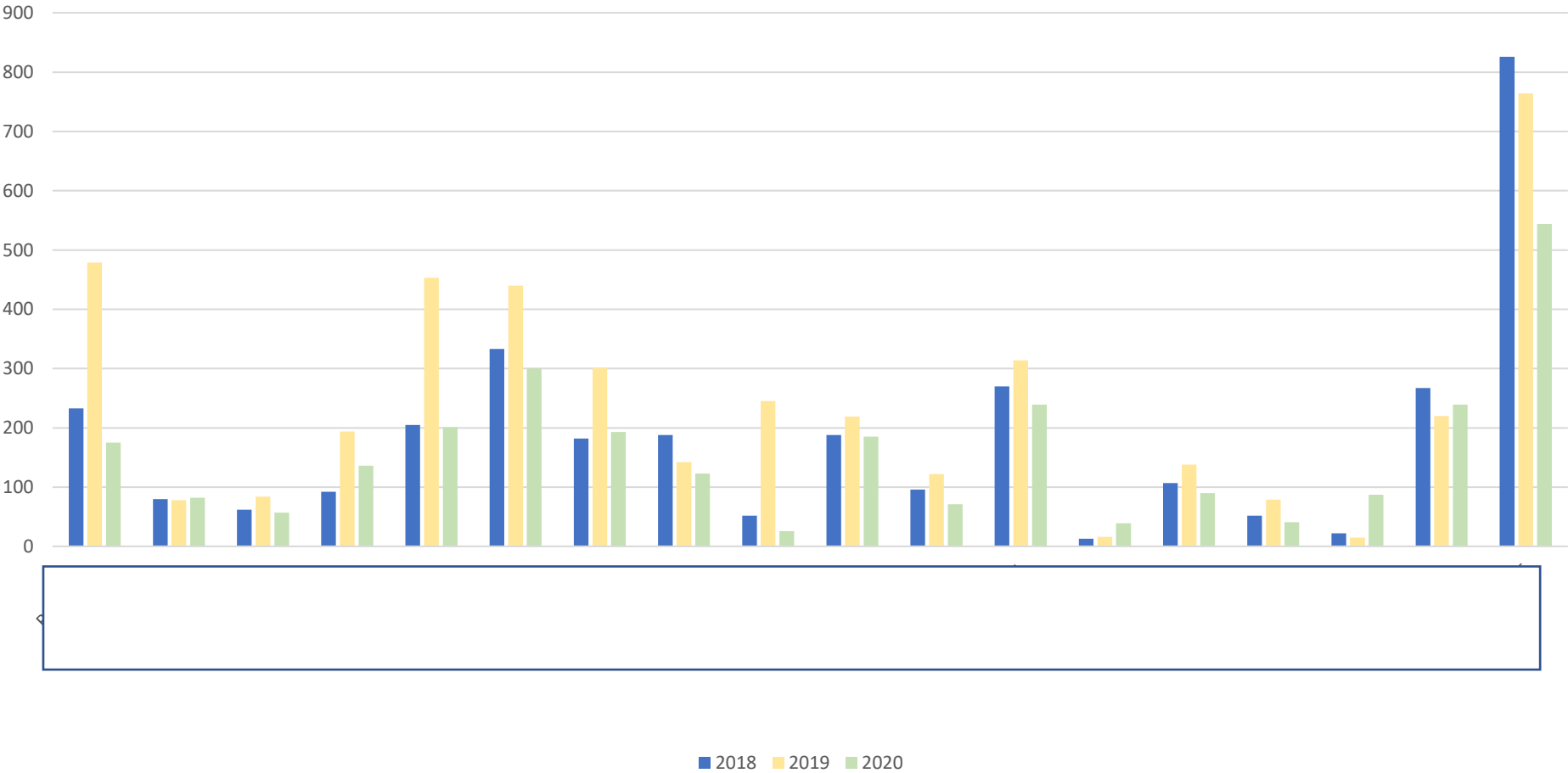
Inclusions

Stability from 2020 vs 2019



Pharma induced sponsorship - inclusions

(3268 / 4303 / 2828 vs 2018-19-20)



Managing clinical trials during lockdown

- Teleconsultations
 - From N=25 over 2 months to N=5584 over 2 months before and after lockdown
- Inclusion halted during the lockdown
 - Pharma trials vs academic trials
- Adapted procedures :
 - Teleconsultations, shipment of experimental product

COVID-19 Trials?



Original Research

High mortality rate in cancer patients with symptoms of COVID-19 with or without detectable SARS-COV-2 on RT-PCR

Souad Assaad^{a,b,c,1}, Virginie Avrillon^{a,b,c,1}, Marie-Line Fournier^{a,b,c,1}, Benedicte Mastroianni^{a,b,c,1}, Bruno Russias^{a,b,c,1}, Aurélie Swaldutz^{a,b,c}, Philippe Cassier^{a,b,c}, Lauriane Eberst^{a,b,c}, Marie-Pierre Steineur^{a,b,c}, Marianne Kazes^{a,b,c}, Maurice Perol^{a,b,c}, Anne-Sophie Michallet^{a,b,c}, Philippe Rey^{a,b,c}, Anne-Sophie Erena-Penet^{a,b,c}, Astrid Morel^{a,b,c}, Mehdi Brahmi^{a,b,c}, Armelle Dufresne^{a,b,c}, Olivier Tredan^{a,b,c}, Gisèle Chvetzoff^{a,b,c}, Jérôme Fayette^{a,b,c}, Christelle de la Fouchardiere^{a,b,c}, Isabelle Ray-Coquard^{a,b,c}, Thomas Bachelot^{a,b,c}, Pierre Saintigny^{a,b,c}, Mayeul Tabutin^{a,b,c}, Aurélien Dupré^{a,b,c}, Emmanuelle Nicolas-Virelizier^{a,b,c}, Amine Belhabri^{a,b,c}, Pierre-Eric Roux^{a,b,c}, Christine Fuhrmann^{a,b,c}, Franck Pilleul^{a,b,c}, Alexandre Basle^{a,b,c}, Amine Bouhamama^{a,b,c}, Christelle Galvez^{a,b,c}, Andrée-Laure Herr^{a,b,c}, Julien Gautier^{a,b,c}, Sylvie Chabaud^{a,b,c}, Philippe Zrounba^{a,b,c}, David Perol^{a,b,c}, Jean-Yves Blay^{a,b,c,*}



Observational studies

Mortality of patients with cancer presenting with symptoms of COVID-19 with vs without detectable SARS-COV-2: A nationwide prospective cohort study.

Short title: Mortality of patients with cancer with and without virologic confirmation of COVID-19

Authors

Souad Assaad¹, Philippe Zrounba¹, Claire Cropet², Charlotte Faucher³, Bertrand Gachot⁴, Anne Laure Simonet-Lamm⁵, Stéphane Lepretre⁶, Dominique Vanjak⁷, Simon Pernot⁸, Fadila Chergui⁹, Laetitia Stefani¹⁰, Jocelyne Provencal¹¹, Thibault Le Bourgeois¹², Xavier Durando¹³, Julien Peron¹⁴, Roland Schott¹⁵, Guillaume Carbonnelle¹⁶, Magali Briere¹⁷, Blaha Belgadi¹⁸, Adeline Debreuve¹⁹, Marianne Hamon²⁰, Dominique Dramais²¹, Philippe Rochigneux²², Clémence Brac de la Perriere²³, Boris Campillo-Gimenez²⁴, Julien Gautier², Olivia Febvey², David Pérol² and Jean-Yves Blay¹¹ *for the investigators of the ONCOVID study.*



Original Research

Risk factors for Coronavirus Disease 2019 (COVID-19) severity and mortality among solid cancer patients and impact of the disease on anticancer treatment: A French nationwide cohort study (GCO-002 CACOV-19)



Astrid Lièvre^{a,*}, Anthony Turpin^b, Isabelle Ray-Coquard^c, Karine Le Malicot^d, Juliette Thariat^e, Guido Ahle^f, Cindy Neuzillet^g, Xavier Paoletti^g, Olivier Bouché^h, Kais Aldabbaghⁱ, Pierre Michel^j, Didier Debievre^k, Anthony Canellas^l, Marie Wislez^m, Lucie Laurentⁿ, May Mabro^o, Raphael Colle^p, Anne-Claire Hardy-Bessard^q, Laura Mansi^r, Emeline Colomba^s, Jean Bourhis^t, Philippe Gorphe^u, Yoann Pointreau^v, Ahmed Idhah^w, Renata Ursu^x, Anna Luisa Di Stefano^y, Gérard Zalcman^{z,1}, Thomas Aparicio^{aa,1}, for the GCO-002 CACOV-19 collaborators/investigators²

Association of COVID-19 inflammation with activation of the C5a–C5aR1 axis

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Julien Carvelli, Olivier Demaria, Frédéric Vély, Luciana Batista, Nassima Chouaki Benmansour, Joanna Fares, Sabrina Carpentier, Marie-Laure Thibault, Ariane Morel, Romain Remark, Pascale André, Agnès Represa, Christelle Piperoglou, the Explore COVID-19 IPH group, the Explore COVID-19 Marseille Immunopole group, Pierre Yves Cordier, Erwan Le Dault, Christophe Guervilly, Pierre Simeone, Marc Gainnier, Yannis Morel, Mikael Ebbo, Nicolas Schleinitz & Eric Vivier

Clinical Trial Protocol – IMMUNONCOVID-20
EudraCT : 2020-001373-70 - Sponsor ID: ET20-076



IMMUNONCOVID-20

A prospective, controlled, randomized, multicenter study to compare the efficacy of a chloroquine analog (GNS561), an anti-PD-1 (nivolumab), an anti-NKG2A (monalizumab), an anti-interleukine-6 receptor (tocilizumab) and an anti-C5aR (avdoralimab) *versus* standard of care in patients with advanced or metastatic cancer and SARS-CoV-2 (COVID-19) infection.

Diagnosis of SARS-CoV-2 infection

STUDY PARTICIPATION

STUDY ENTRY (STAGING) Severity stadification

Patients with mild symptoms

Randomized comparative phase II trial (N₁ = 196)

- Arm A: standard of care only (n=49)
- Arm B: standard of care + GNS561 (n=49)
- ~~Arm C~~: standard of care + nivolumab (n=49)
- Arm G: standard of care + monalizumab (n=49)

COHORT 1

Patients with pneumonia*

Randomized comparative phase II trial (N₂ = 168)

- Arm D: standard of care only (n=42)
- ~~Arm E~~: standard of care + GNS561 (n=42)
- ~~Arm F~~: standard of care + tocilizumab (n=42)
- Arm H: standard of care + avdoralimab (n=42)

COHORT 2

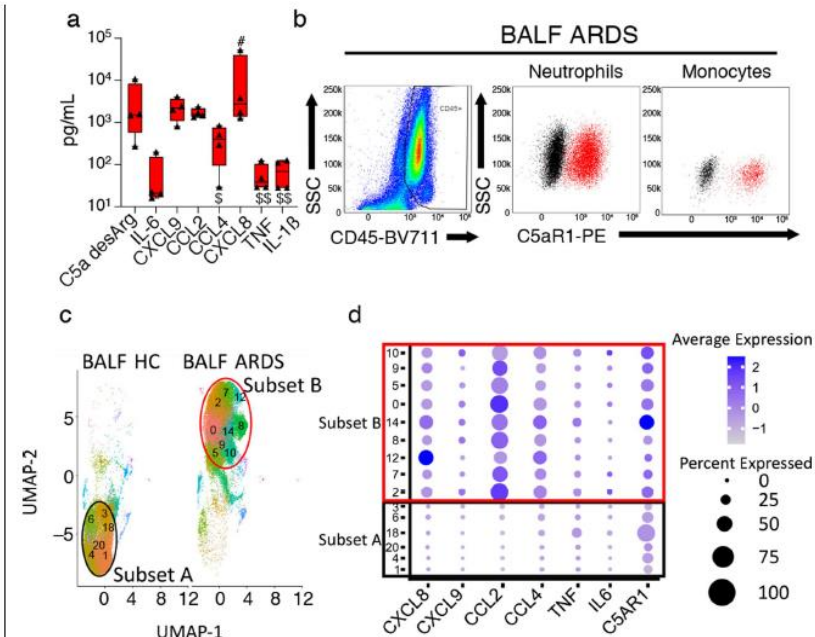


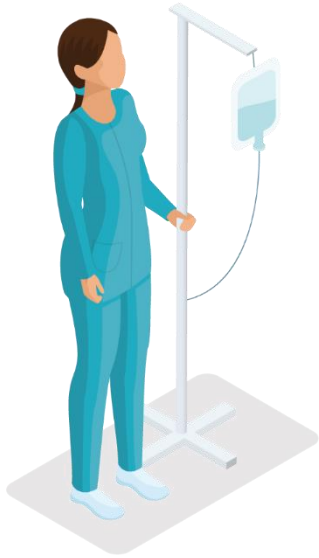
Fig. 3 | C5aR1⁺ cells and C5a are detected in lung samples from COVID-19

COVID-19 Trials & vaccination

Key messages : COVID-19, cancer and clinical research

- Global impact on health care systems
- Significant specific impact on cancer trial accrual and activation
 - Site, tumor types and sponsor dependent
- Newly diagnosed patients, and treatment requiring ICUs
- Comprehensive cancer centers vs general hospitals
- Clinical research in covid-19 in cancer patients were initiated in record time,
 - but inclusion was impacted by the very variable monthly incidence

Suivi des patients et COVID au CLB

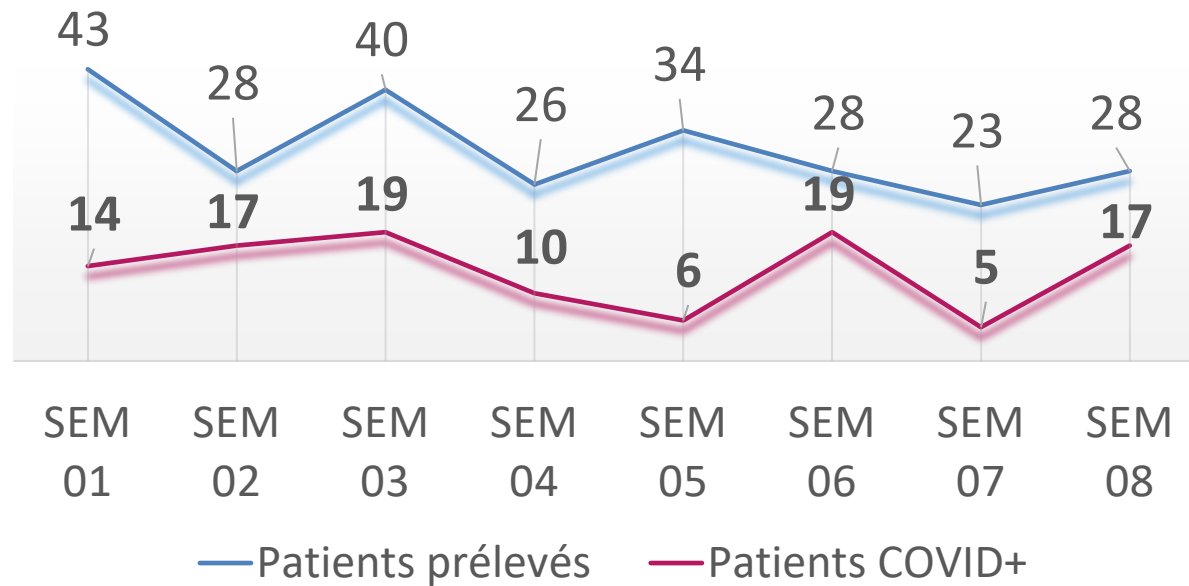


Du 9 mars 2020 au 26 février 2021

Nbre de patients prélevés :
1512

Nbre de patients COVID+ RT-PCR :
411

Du 1^{er} janvier au 26 février 2021



Suivi des salariés et COVID au CLB

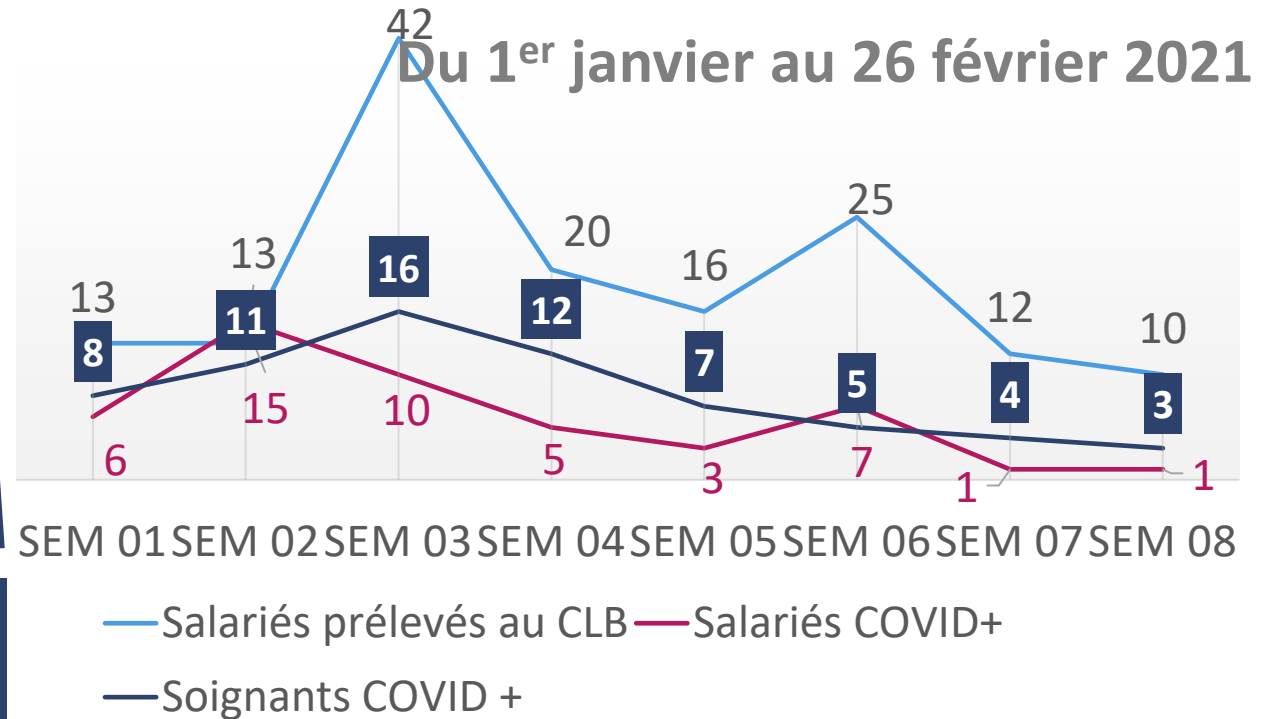


Du 9 mars 2020 au 26 février 2021

Nbre de salariés prélevés au CLB :
1415

Nbre de salariés COVID+ RT-PCR* :
266

* Ces résultats concernent uniquement les salariés prélevés au CLB



Mortality of patients with cancer presenting with symptoms of COVID-19 with vs without detectable SARS-COV-2: A nationwide prospective cohort study.

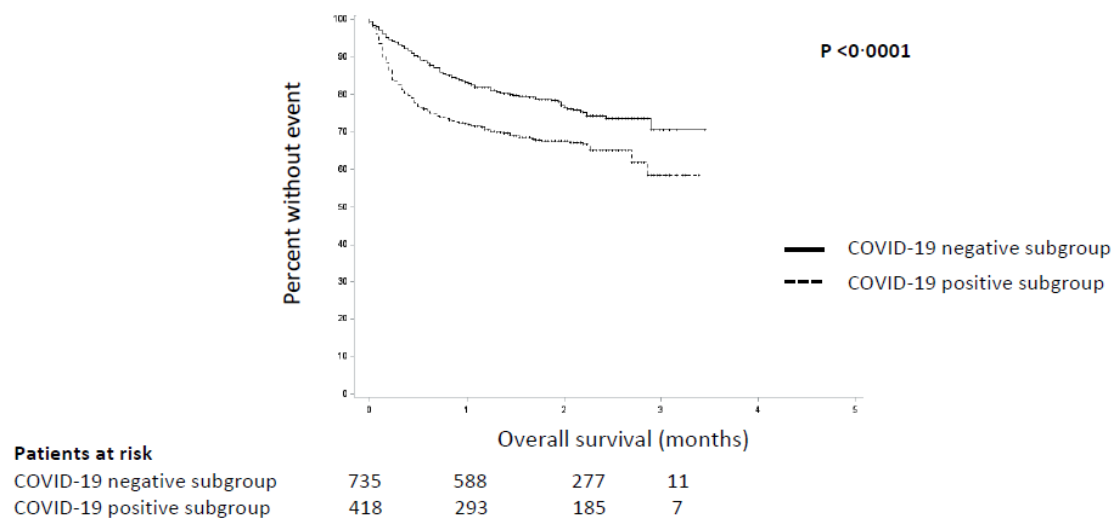
Short title: Mortality of patients with cancer with and without virologic confirmation of COVID-19

Authors•

Souad Assaad¹, Philippe Zrounba¹, Claire Cropet², Charlotte Faucher³, Bertrand Gachot⁴, Anne Laure Simonet-Lamm⁵, Stéphane Lepretre⁶, Dominique Vanjak⁷, Simon Pernot⁸, Fadila Chergui⁹, Laetitia Stefani¹⁰, Jocelyne Provencal¹¹, Thibault Le Bourgeois¹², Xavier Durando¹³, Julien Péron¹⁴, Roland Schott¹⁵, Guillaume Carbonnelle¹⁶, Magali Briere¹⁷, Blaha Belgadi¹⁸, Adeline Debreuve¹⁹, Marianne Hamon²⁰, Dominique Dramais²¹, Philippe Rochigneux²², Clémence Brac de la Perriere²³, Boris Campillo-Gimenez²⁴, Julien Gautier², Olivia Febvey-Combes², David Pérol² and Jean-Yves Blay¹¹ *for the investigators of the ONCOVID-19 study.*

Figure 2. Overall survival in the global population and according to COVID-19 status.

A) COVID-19 positive vs COVID-19 negative subgroups



B) COVID-19 negative vs COVID-19 positive SARS-COV-2 RT-PCR positive (*) or negative () subgroups**

