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1 **Title: Management of gynecological cancers in the emergency**
2 **department: impact of precariousness and prognostic factors**

3

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18

19 **ABSTRACT**

20 **Objective:** The primary objective was to determine the profile of patients consulting in an emergency
21 department and diagnosed with a pelvic cancer. Our secondary objective was to assess the potential
22 impact on this diagnostic trajectory on survival.

23 **Method:** A single-center retrospective study including patients managed for a pelvic cancer between
24 January 2018 and November 2020 in the Centre Hospitalier Intercommunal de Creteil was conducted.
25 Patients' characteristics were compared based on their diagnostic trajectory (emergency or referred to
26 consultation). Precariousness was assessed using Pascal's tool based on 4 characteristics: being a
27 beneficiary of the former Couverture Maladie Universelle (CMU) or Aide Medicale d'Etat (AME), not
28 having complementary health insurance, being job seeking for more than 6 months and being
29 beneficiary of allowances. A patient was defined as precarious if the Pascal tool was 'TRUE', i.e., at
30 least one positive item. The main socio-demographic and cancer associated factors were analyzed as
31 prognostic factors.

32 **Results:** Over the inclusion period, among the 283 eligible patients, 37.3% (87/233) had a diagnosis of
33 cancer following an emergency department visit. There was a significant association between
34 precariousness, rupture of gynecological follow-up, lack of participation in national screening
35 campaigns and the risk of being diagnosed through the emergency pathway for all cancers studied ($p =$
36 0.001). There was no difference in terms of stage at diagnostic, management (according to current
37 guidelines), prognostic and overall survival between the two groups.

38 **Conclusion:** Patients in a situation of precariousness are more likely to be diagnosed with cancer in an
39 emergency department. Our study underlines the importance of precariousness as a factor determining
40 the type of diagnostic management of gynecological cancer. Efforts should be made toward improving
41 frail patients to primary care.

42 **Keywords:** MeSH : Pelvic cancers, Precariousness, Social vulnerability, Primary health care,
43 Prevention

45 INTRODUCTION

46 Management of cancer, the leading cause of death in men and second in women after
47 cardiovascular disease, is a major public health issue [1]. Concerning gynecological cancers, breast
48 and pelvic, in 2018 in France, there were 75,796 new cases of cancer, responsible for 19,157 deaths
49 [2]. In various international studies, it has been demonstrated that a social gradient exists in terms of
50 incidence and mortality, with a lower life expectancy for people belonging to socially disadvantaged
51 groups [3–5]. As an example, in a meta-analysis conducted in the United States on ovarian cancer,
52 Karanth and all.[3] demonstrated that lower socioeconomic status (SES) was associated with a 10%
53 increased risk of mortality (RR = 1.10, 95% CI = 1.03 to 1.18, I2 = 80.5%; P < .001) in a pooled
54 analysis of seven studies involving 78,061 patients. Similarly, Njoku and al. [4] uncovered findings in
55 line with this trend regarding endometrial cancer in the United Kingdom. In their study, which
56 encompassed 539 patients, 37.4% belonged to the group categorized as the most disadvantaged
57 according to English indices of multiple deprivation derived from residential postcodes. Their results
58 revealed that women in the middle and most deprived groups had a two-fold increase in cancer-
59 specific mortality (adjusted hazard ratio, HR = 2.00, 95% CI 1.07–3.73, P = 0.030) and a 53% increase
60 (adjusted HR = 1.53, 95% CI 0.77–3.04, P = 0.221) in cancer-specific mortality compared to women
61 in the least deprived group. Notably, there were no differences observed in overall survival.

62 Precariousness was defined for the first time in 1987 by Joseph Wresinski [6]. It is a
63 multifactorial concept defined by ‘the absence of one or more of the securities that allow individuals
64 and families to assume their professional, family and social obligations and to enjoy their fundamental
65 rights.’ Precariousness does not refer to a defined social category but to a progressive and reversible
66 situation that can affect all categories. To determine the impact of precariousness on health, it is
67 necessary to detect it and define its main dimensions in a simple way. Several scores have therefore
68 been developed (EPICES [7], EDI [8]). One of these is Pascal's tool [9]. It has been designed to
69 identify people in precarious situations who come to the emergency department. It focuses on simple,
70 objective elements that can be identified in a short space of time and can be used in retrospective
71 studies. It is based on 4 characteristics: based on 4 items: being a beneficiary of the former Couverture

72 Maladie Universelle (CMU) or Aide Medicale d'Etat (AME), not having complementary health
73 insurance, being job seeking for more than 6 months and being beneficiary of allowances. A patient is
74 defined as precarious if the Pascal tool is 'TRUE', i.e., at least one positive item. The negative impact
75 of precariousness on gynecological cancers has already been studied on prevention [10–12] and
76 treatment [13–15]. It is also associated with a decrease in access to primary care and consequently an
77 increase in emergency department visits [16].

78 Some study focused on the impact of poverty on cancer prognosis, and found around 14% of
79 cancers are diagnosed following an emergency department visit [17,18], which was correlated with
80 advanced stage of the disease. *Eliss Brookes and al.* [19] showed that the 1-year survival of patients
81 managed for breast cancer following an emergency department visit was 54% versus 97% after a visit
82 to the primary care physician ($p=0.001$). Few real-world studies conducted within healthcare systems
83 providing comprehensive coverage and widespread access to primary care have been conducted or
84 published. These studies might hold the potential to offer more precise insights, circumventing the
85 inherent selection bias often associated with cohort studies.

86 Thus, the aim of this study was to determine the profile of patients consulting in an emergency
87 department and diagnosed with a pelvic cancer. Our secondary objective was to assess the potential
88 impact on this diagnostic trajectory on survival.

89

90

91 **METHODS**

92 We conducted a retrospective observational study in the gynecology obstetrics department of
93 the Centre Hospitalier Intercommunal de Creteil (CHIC). Patients managed for pelvic neoplasia
94 between January 1st, 2018, and November 30, 2020, were selected. Patients were classified into two
95 groups according to their pathway; the first group being those with suspected cancer diagnosis
96 following an emergency department visit (“U”), the second being those referred to the CHIC for
97 management (“AC”). Minor patients, patients with neoplasia of non-gynecological etiology, patients
98 for whom clinical data were not available, patients not managed initially in the CHIC and patients
99 consulting for a recurrence of a known treated neoplasia were excluded. The study was approved by
100 the Comité Ethique pour la recherche en Obstétrique et Gynécologie (CEROG) (Number : CEROG
101 2021 – GYN-1206) [20].

102 Sociodemographic data collected were those related to social inequalities and precariousness
103 in the literature. Origin, language, marital status, place of residence and socio-professional category
104 according to the INSEE nomenclature of professions and socio-professional categories were analyzed.
105 The CSP+ category corresponds to women farmers, craftswomen, shopkeepers, heads of companies
106 with more than 10 employees, professionals, professors, executives and other higher intellectual
107 professions, foremen, supervisors, paramedics, and technicians. The category CSP- corresponds to
108 employees, service personnel and workers. We collected data about presence of a referring physician,
109 annual gynecologic examination and participation in breast and cervical screening according to current
110 recommendations were analyzed. Precariousness was defined according to the Pascal’s tool [21] based
111 on 4 items: being a beneficiary of the former Couverture Maladie Universelle (CMU) or Aide
112 Médicale d’Etat (AME), not having complementary health insurance, being job seeking for more than
113 6 months and being beneficiary of allowances. A patient was defined as precarious if the Pascal tool
114 was ‘TRUE’, i.e., at least one positive item. The clinical data analyzed were age at diagnosis, Body
115 Mass Index (BMI), parity, smoking status, performance status according to the World Health
116 Organization (WHO), hormonal status, use of hormonal replacement therapy (HRT), presence of
117 comorbidity assessed by the Charlson’s score [22]. This is a comorbidity index designed to predict

118 one-year mortality. Individuals with a score of 0 have a one-year mortality rate of 12%, those with a
119 score of 1 or 2 have a rate of 26%, a score of 3 or 4 corresponds to a rate of 52%, and those with a
120 score of 5 or higher have an 85% mortality rate. We also collected histological parameters, tumor
121 grade, stage according to the International Federation of Gynecology and Obstetrics (FIGO)
122 classification [23–26]. Management of patients was compared to the recommended theoretical
123 management[23–26]. Time to treatment was calculated in days from the date of the first consultation
124 to the date of the first treatment received when this was performed. Overall, survival was calculated
125 from the date of the first visit.

126 All statistical analyses were performed using R software (version 1.3.1093). Differences
127 between the main categorical variables were assessed by Chi-2 test or Fisher’s exact test depending on
128 the number of participants, and quantitative variables were compared by Student’s test. For
129 comparison of continuous variables, a Mann-Whitney’s test was used. For all analyses performed, a p-
130 value < 0.05 was considered as a significant difference. Because of the small numbers of patients in
131 the vulvar and vaginal cancer cohorts, only a descriptive analysis was performed. Kaplan Meier
132 survival curves were generated to assess overall survival according to the identified groups. We used a
133 log rank test to compare these curves.

134

135

136 **RESULTS**

137 Between January 1st, 2018, and November 30, 2020, 283 patients were managed for a pelvic
138 cancer in the CHI Creteil. Among the 233 eligible patients, 37.3% (87/233) had a suspected diagnosis
139 of cancer following an emergency visit (Figure 1).

140 The mean age of patients managed for cervical cancer was 57.1 years 68.7, 62.4 and 65 years
141 for endometrial, ovarian, and vulvar cancer respectively. Postmenopausal women represented 78.4%
142 (183/233) of the entire cohort. Vulvar cancer were the rarest cancers, but 46% (6/13) of them were
143 diagnosed following an emergency department visit. Patients with a Charlson score ≥ 5 accounted for
144 31.2% (73/233) of the entire cohort (Table 1).

145

146 *Cervical cancer*

147 Clinical characteristics were comparable between the two groups. Patients in group “U” were
148 significantly more likely to be in precarious situations, to have no referring physician, to have had no
149 consultation with gynecologist during the year and to have not participated in a screening program
150 according to the current recommendations. There was no significant difference in terms of origin,
151 marital status, and socio-professional category (Table 2).

152

153 *Endometrial cancer*

154 Baseline clinical characteristics were comparable between the two groups. Patients managed
155 following an emergency consultation were significantly more likely to be in precarious situation
156 (14/36 or 39% versus 9/52 or 17%, $p=0.02$). There was no significant difference in socio-demographic
157 origin, gynecological and GP follow-up. Stage at diagnosis, presence of lymphovascular invasion and
158 grade of the tumor were comparable. (Table 3).

159

160 *Ovarian cancer*

161 Patients in group “U” were significantly younger than those in group “AC” (52.3 years versus
162 66.5 years, $p<0.01$). There were significantly more precarious women in the “U” group (8/20 or 40%
163 versus 5/48 or 10%, $p=0.01$) and they were significantly less likely to have had a consultation with a
164 gynecologist during the year (5/20 or 25% versus 27/48 or 56%, $p=0.03$). Stage at diagnosis was
165 significantly different between the two groups ($p=0.04$); 20% (4/20) of patients in the “U” group had
166 stage IV tumor versus 38% (18/48) of patients in the “AC” group (Table 4).

167

168 *Vulvar cancer*

169 All patients in the “U” group were precarious (6/6 or 100% versus 2/7 or 29% for the “AC”
170 group). Time to management was higher in the “U” group than in the “AC” group (62 days versus 53
171 respectively). All patients had advanced cancers at the time of diagnosis.

172

173 *Survival analysis*

174 There was no significant difference in overall survival between the two groups for all cancers
175 (Figure 2). Concerning endometrial cancer, the median follow-up was 0.98 years (95%CI: 0.37-1.7).
176 During this period, 26 patients died, 46% in the “U” group, 9 patients in the “U” group (25%) and 8
177 patients in the “AC” group (15%) had disease progression. Among patients managed for ovarian
178 cancer, the median follow up was 1.6 years (95%CI: 0.84-1.5), during the follow up, 20% (4/20) of
179 patients in the “U” group and 46% (22/48) in the “AC” group had disease progression and 23 patients
180 died (21.7% in the “U” group). Among those managed for cervical cancer, during a median follow-up
181 of 0.85 years (95%CI: 0.56-1.49), 44% (11/25) of patients in the “U” group and 41% (16/39) of
182 patients in the “AC” group had disease progression ($p=0.8$) and 25 patients died (40% in the “U”
183 group). Finally, the median follow-up of patient managed for vulvar cancer was 0.76 years (95%CI:

184 0.44-2.21), two patients with had disease progression: one in each study group and 5 died (1/5 in the
185 “U” group).

186 DISCUSSION

187 In this work we found that patients presenting in the emergency department with pelvic cancer
188 exhibit various precariousness factors. Specifically, individuals who had not attended regular
189 gynecological follow-ups or had not recently participated in screening programs were more likely to
190 receive their cancer diagnosis during an emergency consultation. Our analysis revealed that the mode
191 of entry into the cancer care pathway did not have impact on overall survival.

192 Association between precariousness and diagnosis of gynecological cancer after an emergency
193 consultation was previously described by *Bottle and al.* [27] in 2012. In their cohort including 639,064
194 patients, 139,351 had a cancer diagnosis following an emergency department visit. Populations living
195 in disadvantaged areas had an increased risk of diagnosis through this way (OR = 1.36 95%CI; 1.32-
196 1.40). *Tsang et al* [17] found similar results in their study including 5970 patients managed for cancer
197 between 1999 and 2008 in England, 817 were diagnosed following an emergency consultation.
198 Patients living in deprived areas were at higher risk of diagnosed through this pathway (RR=1.93
199 95%CI: 1.51 – 2.47, $p<0.01$). In our study, the large part of gynecological cancer diagnosed following
200 an emergency department visit can be explained by the significant poverty rate in the neighborhood of
201 Creteil in 2019 where our study was conducted (26) (around 21% whereas the national rate is of 14%).

202 In our study, only 20% of patients managed for cervical cancer had had a screening pap-smear
203 within 2 or 3 years according to current recommendations, compared with 44% of patients referred to
204 standard consultation. This result underlines the low participation of this group of vulnerable patients
205 in screening programs and may partly explain the use of emergency department for the diagnosis of
206 malignancy. This is in line with the findings of *Kurani et al* [12] with participation in cervical cancer
207 screening programs. In this study including 126,731 women eligible for cervical cancer screening,
208 probability of performing the recommended screening decreased for those living in the most
209 disadvantaged quintile (Cervical cancer OR = 0.58 95% CI: 0.54 – 0.62). These findings are also
210 reflected in breast cancer screening participation within the same study, which included 78,302 women
211 eligible for breast cancer screening (OR= 0.51 95% CI: 0.46 – 0.57). This was also described by *Smith*

212 *and al* [10]. In their meta – analysis, 10 out of the 13 studies included showed a negative association
213 between living in a deprived area and participation in breast cancer screening using deprivation index
214 as standard (EDI score). In our study, we did not analyze breast cancer cases. However, based on our
215 results, it is likely that similar trends would emerge for this cancer as well.

216 *Eliss Brookes and al* [19] analyzed the 1-year survival of 739,667 patients managed for cancer
217 between 2006 and 2008 according to the route of diagnosis in the United Kingdom (Screening,
218 Emergency visits, Referred by GP to a specialist in a standard way, Referred by GP in an urgent way
219 “Two Week Referral”, Consultation with a specialist not known by the patient and Consultation with a
220 specialist known by the patient). Of these patients, 289,322 had a diagnosis of gynecological cancer.
221 Authors observed a decrease in 1-year survival in patients with a cancer diagnosis following an
222 emergency department visit. Survival rate for ovarian cancer, all diagnostic pathway combined was
223 70% and 45% via the emergency department, for endometrial cancer, it was 91% and 59%
224 respectively. These results contrast with those in our cohort where being diagnosed in an emergency
225 department had no impact on survival, in every cancer studied. We can explain this difference by (i)
226 the size of the population analyzed; *Eliss-Brookes 's study* was a nationwide study. (ii) the absence of
227 difference in our population regarding age of the patients (contrary to *Elliss-Brookes 'study*), which is a
228 major prognostic factor for several gynecological cancers. (iii) the difference system of care across
229 country which is organized in France with a General Practitioner in charge of managing primary care
230 and specialized practitioners involved when required by this latter and not by patients themselves.’.

231 This is the first French study to examine the prognosis of gynecological cancers according to
232 their care pathway. Analysis of route to diagnosis could allow thinking of corrective factors, by
233 reinforcing access to primary care, the first link with specialist physician. Development of
234 gynecological activities by general practitioners, who are already heavily involved in the follow-up of
235 patients could make it possible to improve management by reducing delays before consultation.
236 However, some limitations should be emphasized, particularly those inherent in the retrospective and
237 monocentric nature of the study. During the 2 years of the study, 283 patients were managed for pelvic
238 cancer; 40 patients were excluded from the analysis because of the lack of data concerning

239 precariousness factor. This choice ensured an exhaustive analysis of the factors associated with
240 management. Finally, the follow-up of our patients was relatively short, and it is possible that a longer
241 follow-up will refine the results obtained, particularly on survival. Concerning evaluation of
242 precariousness, we chose to use Pascal's tools. This choice was guided by retrospective nature of our
243 data collection. By using other scores, such as EPICES, EDI disadvantaged index or the social
244 handicap score, which explore other domains of precariousness, notably standard of living, personal
245 income, cultural and material data; selection of precarious patients would have been more exhaustive
246 to the detriment of the reproducibility of our analysis, We were not able to evaluate the economic
247 impact of the care pathway of precarious patients managed in the emergency department. *Laudicella*
248 *and al.* [28] in the United Kingdom looked at the reduction in cost of care if patients were redirected to
249 primary care services. They found a reduction of 21.695.01 euros (18.260 pounds) one year after
250 diagnosis of breast cancer if it was diagnosed via a consultation with a primary care physician.
251 Nevertheless, there is ongoing debate regarding the enduring effects on healthcare expenditure
252 resulting from early interventions in primary care, warranting specialized studies to address this
253 question directly.

254 Common factors explaining the use of emergency visits for diagnosis of each of gynecological
255 cancers were precariousness, absence of gynecological follow up and low participation rate in
256 screening programs. This reflects persistent social inequalities in health in France and the difficulties
257 encountered in accessing care, despite a unique social protection system. Fight against inequalities has
258 been an integral part of health policies since 2004. As with the National Health Strategy 2018-2022,
259 Cancer Plan 2014-2019 [29] had made reduction of inequalities one of its major objectives. One of its
260 axes was to ensure that prevention policies benefit to everyone. Impact of these strategies to improve
261 territorial networking and patient management even when factors of vulnerability exist will have to be
262 evaluated to improve our practices.

263

264

265 **CONCLUSION**

266 Patients seen in the emergency department for gynecological cancer have many factors of
267 vulnerability including absence of gynecological follow-up and poor adherence to screening programs.
268 Even if prognosis does not seem to be influenced by the care pathway, setting up a dedicated pathway
269 for people facing precariousness and cancer diagnosis could be useful to improve gynecological
270 cancer care in this population.

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272

273

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275 acquisition, analysis, or interpretation of data; revised it critically for important intellectual content;
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282 *Data Availability Statement:* Datasets available upon request.

283 *Conflicts of Interest:* The authors declare no conflict of interest.

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287 *References*

- 288 1. Données globales d'épidémiologie des cancers - Epidémiologie des cancers [Internet]. [cité 13 avr
289 2023]. Disponible sur: [https://www.e-cancer.fr/Professionnels-de-sante/Les-chiffres-du-cancer-en-](https://www.e-cancer.fr/Professionnels-de-sante/Les-chiffres-du-cancer-en-France/Epidemiologie-des-cancers/Donnees-globales)
290 [France/Epidemiologie-des-cancers/Donnees-globales](https://www.e-cancer.fr/Professionnels-de-sante/Les-chiffres-du-cancer-en-France/Epidemiologie-des-cancers/Donnees-globales)
- 291 2. Defossez Gautier, Le Guyader-Peyrou Sandra, Uhry Zoé, Grosclaude Pascale, Colonna Marc,
292 Dantony Emmanuelle, Delafosse Patricia, Molinié Florence, Woronoff Anne-Sophie, Bouvier
293 Anne-Marie, Bossard Nadine, Remontet Laurent, Monnereau Alain. Estimations nationales de
294 l'incidence et de la mortalité par cancer en France métropolitaine entre 1990 et 2018 - Tumeurs
295 solides : Étude à partir des registres des cancers du réseau Francim.
- 296 3. Karanth S, Fowler ME, Mao X, Wilson LE, Huang B, Pisu M, et al. Race, Socioeconomic Status,
297 and Health-Care Access Disparities in Ovarian Cancer Treatment and Mortality: Systematic
298 Review and Meta-Analysis. *JNCI Cancer Spectr* [Internet]. 9 oct 2019 [cité 7 mars
299 2022];3(4):pkz084. Disponible sur: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6899434/>
- 300 4. Njoku K, Barr CE, Hotchkies L, Quille N, Wan YL, Crosbie EJ. Impact of socio-economic
301 deprivation on endometrial cancer survival in the North West of England: a prospective database
302 analysis. *BJOG*. juin 2021;128(7):1215- 24.
- 303 5. Bouchardy C, Verkooijen HM, Fioretta G. Social class is an important and independent prognostic
304 factor of breast cancer mortality. *International Journal of Cancer* [Internet]. 2006 [cité 31 oct
305 2021];119(5):1145- 51. Disponible sur: <http://onlinelibrary.wiley.com/doi/abs/10.1002/ijc.21889>
- 306 6. Grande Pauvreté et Précarité Economique et Sociale - J. WRESINSKI 1987.
- 307 7. Labbe E, Blanquet M, Gerbaud L, Poirier G, Sass C, Vendittelli F, et al. A new reliable index to
308 measure individual deprivation: the EPICES score. *Eur J Public Health* [Internet]. août 2015 [cité
309 6 déc 2021];25(4):604- 9. Disponible sur: [https://academic.oup.com/eurpub/article-](https://academic.oup.com/eurpub/article-lookup/doi/10.1093/eurpub/cku231)
310 [lookup/doi/10.1093/eurpub/cku231](https://academic.oup.com/eurpub/article-lookup/doi/10.1093/eurpub/cku231)

- 311 8. Pernet C, Delpierre C, Dejardin O, Grosclaude P, Launay L, Guittet L, et al. Construction of an
312 adaptable European transnational ecological deprivation index: the French version. *J Epidemiol*
313 *Community Health* [Internet]. 1 nov 2012 [cité 11 janv 2021];66(11):982- 9. Disponible sur:
314 <http://jech.bmj.com/content/66/11/982>
- 315 9. Pascal J, Quélier C, Agard C, Nguyen JM, Lombrail P. Peut-on identifier simplement la précarité
316 sociale parmi les consultants de l'hôpital ? *Sciences Sociales et Santé* [Internet]. 2006 [cité 13
317 janv 2022];24(3):33- 58. Disponible sur: [https://www.persee.fr/doc/sosan_0294-](https://www.persee.fr/doc/sosan_0294-0337_2006_num_24_3_1688)
318 [0337_2006_num_24_3_1688](https://www.persee.fr/doc/sosan_0294-0337_2006_num_24_3_1688)
- 319 10. Smith D, Thomson K, Bamba C, Todd A. The breast cancer paradox: A systematic review of the
320 association between area-level deprivation and breast cancer screening uptake in Europe. *Cancer*
321 *Epidemiol.* juin 2019;60:77- 85.
- 322 11. Carrasco-Garrido P, Hernandez-Barrera V, Lopez de Andres A, Jimenez-Trujillo I, Gallardo Pino
323 C, Jimenez-Garcia R. Awareness and uptake of colorectal, breast, cervical and prostate cancer
324 screening tests in Spain. *Eur J Public Health.* avr 2014;24(2):264- 70.
- 325 12. Kurani S, MacLaughlin KL, Jacobson RM, St Sauver JL, Jenkins GD, Fan C, et al.
326 Socioeconomic disadvantage and human papillomavirus (HPV) vaccination uptake. *Vaccine.* 24
327 janv 2022;40(3):471- 6.
- 328 13. Pfaendler KS, Chang J, Ziogas A, Bristow RE, Penner KR. Disparities in Adherence to National
329 Comprehensive Cancer Network Treatment Guidelines and Survival for Stage IB-IIA Cervical
330 Cancer in California. *Obstet Gynecol.* mai 2018;131(5):899- 908.
- 331 14. Bristow RE, Chang J, Ziogas A, Campos B, Chavez LR, Anton-Culver H. Sociodemographic
332 disparities in advanced ovarian cancer survival and adherence to treatment guidelines. *Obstet*
333 *Gynecol.* avr 2015;125(4):833- 42.

- 334 15. Dreyer MS, Nattinger AB, McGinley EL, Pezzin LE. Socioeconomic status and breast cancer
335 treatment. *Breast Cancer Res Treat.* janv 2018;167(1):1- 8.
- 336 16. Bieler G, Paroz S, Faouzi M, Trueb L, Vaucher P, Althaus F, et al. Social and medical vulnerability
337 factors of emergency department frequent users in a universal health insurance system. *Acad*
338 *Emerg Med.* janv 2012;19(1):63- 8.
- 339 17. Tsang C, Bottle A, Majeed A, Aylin P. Cancer diagnosed by emergency admission in England: an
340 observational study using the general practice research database. *BMC Health Serv Res.* 14 août
341 2013;13:308.
- 342 18. Rogers MJ, Matheson LM, Garrard B, Mukaro V, Riches S, Sheridan M, et al. Cancer diagnosed
343 in the Emergency Department of a Regional Health Service. *Australian Journal of Rural Health*
344 [Internet]. 2016 [cité 26 août 2021];24(6):409- 14. Disponible sur:
345 <https://onlinelibrary.wiley.com/doi/abs/10.1111/ajr.12280>
- 346 19. Elliss-Brookes L, McPhail S, Ives A, Greenslade M, Shelton J, Hiom S, et al. Routes to diagnosis
347 for cancer - determining the patient journey using multiple routine data sets. *Br J Cancer.* 9 oct
348 2012;107(8):1220- 6.
- 349 20. How is functioning the Ethical Review Board « Comité d’Ethique Pour La Recherche En
350 Obstétrique Et Gynécologie » (CEROG) ? - ScienceDirect [Internet]. [cité 28 juin 2023].
351 Disponible sur: [https://www-sciencedirect-com.ezproxy.u-](https://www-sciencedirect-com.ezproxy.u-paris.fr/science/article/pii/S2468784722000447?via%3Dihub)
352 [paris.fr/science/article/pii/S2468784722000447?via%3Dihub](https://www-sciencedirect-com.ezproxy.u-paris.fr/science/article/pii/S2468784722000447?via%3Dihub)
- 353 21. Fouchard A, Bréchat PH, Castiel D, Pascal J, Sass C, Lebas J, et al. Caractéristiques
354 métrologiques et comparaison de trois outils de repérage de la précarité sociale dans une
355 permanence d’accès aux soins de santé hospitalière à Paris. *Revue d’Épidémiologie et de Santé*
356 *Publique* [Internet]. août 2014 [cité 6 déc 2021];62(4):237- 47. Disponible sur:
357 <https://linkinghub.elsevier.com/retrieve/pii/S0398762014003472>

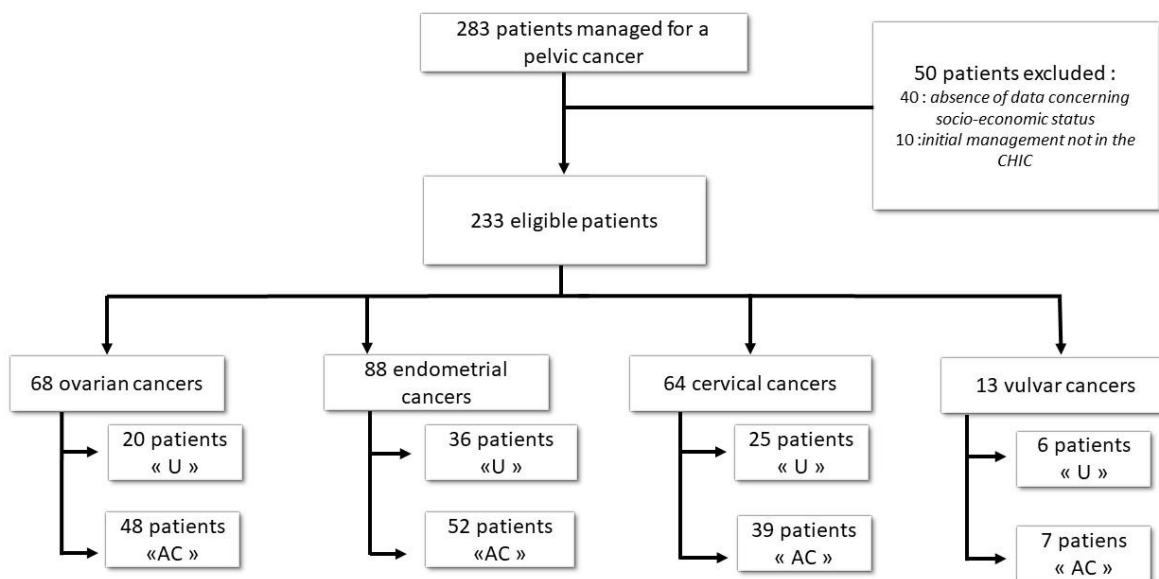
- 358 22. Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic
359 comorbidity in longitudinal studies: development and validation. *J Chronic Dis.*
360 1987;40(5):373- 83.
- 361 23. Colombo N, Creutzberg C, Amant F, Bosse T, González-Martín A, Ledermann J, et al. ESMO-
362 ESGO-ESTRO Consensus Conference on Endometrial Cancer: diagnosis, treatment and follow-
363 up. *Ann Oncol.* janv 2016;27(1):16- 41.
- 364 24. Colombo N, Sessa C, du Bois A, Ledermann J, McCluggage WG, McNeish I, et al. ESMO-ESGO
365 consensus conference recommendations on ovarian cancer: pathology and molecular biology,
366 early and advanced stages, borderline tumours and recurrent disease†. *Ann Oncol.* 1 mai
367 2019;30(5):672- 705.
- 368 25. Oonk, M. H. M., Planchamp, F. Recommandation Cancer de la Vulve [Internet]. [cité 1 févr
369 2022]. Disponible sur: <https://guidelines.esgo.org/media/2019/09/Vulvar-cancer-French.pdf>
- 370 26. Cibula D, Pötter R, Planchamp F, Avall-Lundqvist E, Fischerova D, Haie Meder C, et al. The
371 European Society of Gynaecological Oncology/European Society for Radiotherapy and
372 Oncology/European Society of Pathology Guidelines for the Management of Patients With
373 Cervical Cancer. *Int J Gynecol Cancer* [Internet]. mai 2018 [cité 22 juill 2022];28(4):641- 55.
374 Disponible sur: <https://ijgc.bmj.com/lookup/doi/10.1097/IGC.0000000000001216>
- 375 27. Bottle A, Tsang C, Parsons C, Majeed A, Soljak M, Aylin P. Association between patient and
376 general practice characteristics and unplanned first-time admissions for cancer: observational
377 study. *Br J Cancer* [Internet]. 9 oct 2012 [cité 21 mars 2022];107(8):1213- 9. Disponible sur:
378 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3494442/>
- 379 28. Laudicella M, Walsh B, Burns E, Li Donni P, Smith PC. What is the impact of rerouting a cancer
380 diagnosis from emergency presentation to GP referral on resource use and survival? Evidence
381 from a population-based study. *BMC Cancer* [Internet]. déc 2018 [cité 21 mars 2022];18(1):1- 9.
382 Disponible sur: <http://bmccancer.biomedcentral.com/articles/10.1186/s12885-018-4274-0>

383 29. Le Plan cancer 2014-2019 - Les Plans cancer [Internet]. [cité 19 août 2022]. Disponible sur:
384 [https://www.e-cancer.fr/Institut-national-du-cancer/Strategie-de-lutte-contre-les-cancers-en-](https://www.e-cancer.fr/Institut-national-du-cancer/Strategie-de-lutte-contre-les-cancers-en-France/Les-Plans-cancer/Le-Plan-cancer-2014-2019)
385 [France/Les-Plans-cancer/Le-Plan-cancer-2014-2019](https://www.e-cancer.fr/Institut-national-du-cancer/Strategie-de-lutte-contre-les-cancers-en-France/Les-Plans-cancer/Le-Plan-cancer-2014-2019)

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388 Figure 1 : Flow chart (Abbreviations: Suspected cancer diagnosis following an emergency department visit ("U") / referred
 389 to the CHIC for management ("AC"))



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392 Table 1 : Clinical characteristics of patients according to the cancer

Characteristics	Cervical cancer N = 64 (%)	Endometrial cancer N = 88 (%)	Ovarian cancer N = 68 (%)	Vulvar cancer N = 13 (%)
Age at diagnosis in years, mean ± SD	57.1 ± 17.3	68.7 ± 13.9	62.4 ± 15.9	65 ± 12.2
Body Mass Index in kg/m ² , mean ± SD	25.1 ± 5.6	28.4 ± 8.1	25 ± 5.8	24.42 ± 7.2
Tobacco	23 (35)	15 (17)	17 (25)	2 (15)
Menopausal status	38 (59)	80 (90)	54 (79)	11 (84)
Charlson's score				
0	16 (25)	1 (2)	7 (11)	2 (15)
1 / 2	23 (36)	18 (20)	23 (34)	1 (8)
3 / 4	14 (22)	28 (32)	23 (34)	4 (31)
≥ 5	11 (17)	41 (36)	15 (21)	6 (46)
Performans Status				
0	24 (37)	23 (26)	21 (31)	6 (46)
1	24 (37)	42 (48)	24 (35)	3 (24)
2	7 (11)	13 (16)	15 (22)	2 (15)
3	9 (15)	6 (6)	7 (11)	2 (15)
4	0	4 (4)	1 (1)	0

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394 Table 2 : Characteristics of patients managed for cervical cancer according to mode of entry into the care pathway.

Characteristics	U N = 25 (%)	AC N = 39 (%)	P-value
Origins			0.06
<i>France</i>	7 (28)	25 (64)	
<i>Occidental</i>	3 (12)	3 (8)	
<i>Asia</i>	2 (8)	2 (5)	
<i>Africa</i>	10 (40)	9 (23)	
<i>DOM-TOM</i>	3 (12)	0	
Socio-professional category			0.38
<i>CSP+</i>	1 (4)	5 (13)	
<i>CSP-</i>	11 (44)	11 (28)	
<i>Inactive</i>	11 (44)	12 (31)	
<i>Not known</i>	2 (8)	11 (28)	
Precariousness	16 (64)	12 (31)	< 0.01
Place of residence			< 0.01
<i>Personnal residence</i>	16 (64)	34 (87)	
<i>Others *</i>	9 (36)	5 (13)	
General practionner	18 (72)	37 (94)	0.02
Gynecological follow-up	2 (8)	21 (53)	< 0.01
Screening programs	5 (20)	17 (44)	0.02
Histological subtype			0.46
<i>Epidermoid</i>	22 (88)	32 (83)	
<i>Adénocarcinoma</i>	2 (8)	6 (15)	
<i>Others</i>	1(4)	1 (2)	
Stage			0.82
<i>I</i>	3 (12)	7 (18)	
<i>II</i>	6 (24)	8 (21)	
<i>III</i>	9 (36)	13 (33)	
<i>IV</i>	5 (20)	10 (26)	
<i>Not known</i>	2(8)	1 (2)	
Time to treatment (mean ± SD) in days	45.5 ± 22.1	41.5 ± 24.94	0.47

Abbreviations : suspected cancer diagnosis following an emergency department visit ("U"), referred to the CHIC for management ("AC"), socio-professional category (CSP), others* (homeless, housed)

Table 3 : Characteristics of patients managed for endometrial cancer according to the mode of entry into the care pathway.

Characteristics	U N = 36 (%)	AC N = 52 (%)	P-value
Origins			0.16
<i>France</i>	24 (67)	41 (78)	
<i>Occidental</i>	3 (8)	3 (6)	
<i>Asia</i>	0	2 (4)	
<i>Africa</i>	8 (22)	3 (6)	
<i>DOM-TOM</i>	1 (3)	3 (6)	
Precariousness	14 (39)	9 (17)	0.02
Marital status			0.01
<i>In pairs</i>	14 (39)	36 (69)	
<i>Single</i>	12 (33)	11 (21)	
<i>Widow</i>	10 (28)	5 (10)	
Place of residence			0.04
<i>Personnal residence</i>	28 (77)	49 (94)	
<i>Other*</i>	7 (19)	3 (6)	
General practionner	35 (96)	49 (94)	0.6
Gynecological follow-up	15 (41)	23 (44)	0.8
Hystological subtype			< 0.01
<i>Endométrioïd</i>	20 (56)	44 (85)	
<i>Clear cells</i>	2 (6)	1 (2)	
<i>Serous</i>	4 (11)	7 (13)	
<i>Others</i>	10 (27)	0	
Embols	10 (27)	16 (31)	0.76
Stage			0.78
1	17 (47)	39 (75)	
3	6 (17)	5 (10)	
4	4 (11)	8 (15)	
<i>Not known</i>	9 (25)	0	
Time to treatment (mean ± SD) in days	57,1 ± 36.05	48.7 ± 34.5	0.34

Abbreviations : suspected cancer diagnosis following an emergency department visit ("U"), referred to the CHIC for management ("AC"), socio-professional category (CSP), others* (homeless, housed)

Table 4 : Characteristics of patients managed for ovarian cancer according to the mode of entry into the care pathway

Characteristics	U N = 20 (%)	AC N = 48 (%)	P-value
Origins			< 0.01
<i>France</i>	13 (65)	41 (85)	
<i>Occidental</i>	0	3 (6)	
<i>Asia</i>	0	2 (4)	
<i>Africa</i>	7 (35)	1 (2)	
<i>DOM-TOM</i>	0	1 (2)	
Socio-professional category			0.01
<i>CSP+</i>	2 (10)	10 (21)	
<i>CSP-</i>	6 (30)	12 (25)	
<i>Inactive</i>	9 (45)	3 (3)	
<i>Not known</i>	3 (15)	23 (48)	
Precariousness	8 (40)	5 (10)	0.01
Place of residence			0.18
<i>Personnal residence</i>	17 (85)	45 (94)	
<i>Others *</i>	3 (15)	3 (6)	
General practionner	17 (85)	46 (95)	0.57
Gynecological follow-up	5 (25)	27 (56)	0.03
Stage			0.04
<i>I</i>	11 (55)	9 (19)	
<i>II</i>	0	0	
<i>III</i>	5 (25)	20 (43)	
<i>IV</i>	4 (20)	18 (38)	
Time to treatment (mean \pm SD) in days	59.4 \pm 64	58.8 \pm 63.19	0.98

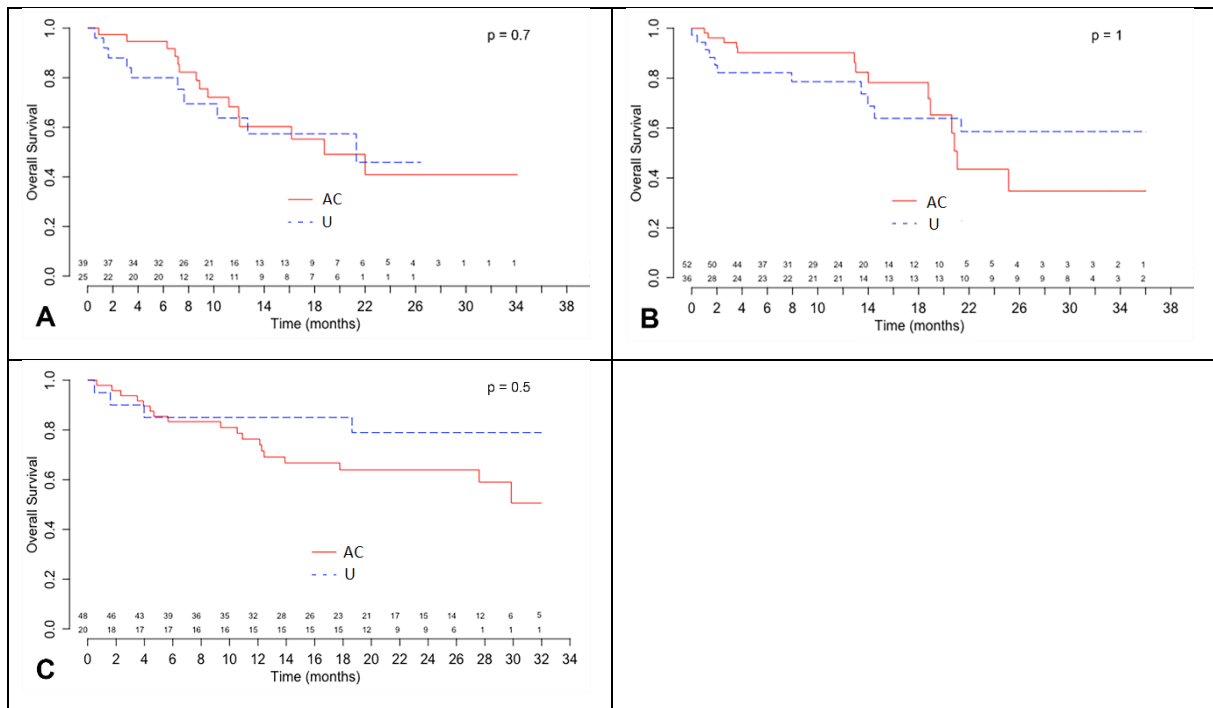
Abbreviations : suspected cancer diagnosis following an emergency department visit ("U"), referred to the CHIC for management ("AC"), socio-professional category (CSP), others (homeless, housed)*

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Figure 2 : Kaplan Meier curve of patients managed for gynecological cancer according to mode of entry into the care pathway (A : Cervical cancer / B : Endometrial cancer / C : Ovarian cancer)



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