

External Hemorrhoidal Thrombosis in Recent Births at the Maternity Ward of Saint Camille Hospital in Ouagadougou

Hyacinthe Zamane^{1,2*}, Aboubacar Coulibaly^{2,3}, Dantola Paul Kain^{2,4}, Sibraogo Kientore^{1,2},
Samira Mireille Kanagnama Sanon¹, Ali Ouedraogo^{2,4}

¹Department of Obstetrics and Gynecology, Yalgado Ouedraogo Teaching Hospital, Ouagadougou, Burkina Faso

²Health Sciences Training and Research Unit, Joseph Ki Zerbo University, Ouagadougou, Burkina Faso

³Hepato-Gastroenterology Service, Yalgado Ouedraogo Teaching Hospital, Ouagadougou, Burkina Faso

⁴Department of Obstetrics and Gynecology, Tengandogo Teaching Hospital, Ouagadougou, Burkina Faso

Email: *zamanehyacinthe@gmail.com

How to cite this paper: Zamane, H., Coulibaly, A., Kain, D.P., Kientore, S., Sanon, S.M.K. and Ouedraogo, A. (2023) External Hemorrhoidal Thrombosis in Recent Births at the Maternity Ward of Saint Camille Hospital in Ouagadougou. *Open Journal of Obstetrics and Gynecology*, 13, 1487-1497. <https://doi.org/10.4236/ojog.2023.139124>

Received: July 14, 2023

Accepted: September 8, 2023

Published: September 11, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Introduction: External hemorrhoidal thrombosis is a clinical is the most common postpartum proctologic accident. The aim of this work was to study hemorrhoidal thrombosis in recent mothers, in order to help improve its management. **Patients and Methods:** This was a descriptive and analytical cross-sectional study that was carried out at Saint Camille Hospital in Ouagadougou, Burkina Faso. Data collection was prospective and took place over a period of three months from September 1 to November 30, 2019. The study population consisted of recent births. The interview with the patients and their physical examination enabled the collection of data. **Results:** During the study period, 384 women were examined and 56 (14.6%) of whom presented with external hemorrhoidal thrombosis. The average age of patients who presented with external hemorrhoidal thrombosis was 29 years \pm 5.2. The external hemorrhoidal thrombosis appeared in the form of a painful swelling at the level of the anal margin. In multivariate analysis, dyschezia and personal history of hemorrhoidal disease were risk factors for external hemorrhoidal thrombosis in the postpartum period (OR = 37.4 [6.8 - 205.7]; OR = 23.9 [3.3 - 174.2]). Consumption of fruit and foods rich in dietary fiber were protective factors against the occurrence of this risk (OR = 0.02 [0.002 - 0.3]). **Conclusion:** External hemorrhoidal thrombosis remains a complication to be taken into account during the monitoring of postpartum women. It is important to encourage pregnant women to consume foods and fruits rich in fiber seem to

reduce the risk of its occurrence.

Keywords

Hemorrhoid, Thrombosis, Postpartum

1. Introduction

External hemorrhoidal disease or external hemorrhoidal thrombosis is a clinical manifestation of hemorrhoids located below the pectineal line [1] [2]. It is the most common postpartum proctologic accident. Indeed, the changes in the hemorrhoidal tissue induced by pregnancy and childbirth through the increase in intra-abdominal pressure and the high level of estrogen would predispose women to this pathology [3]. It would affect one in five women after childbirth and 35% of deliveries could present this type of complication [4]. It is a pathology that is often misunderstood and neglected [4]. Due to its location, it affects intimacy and makes it a taboo subject, because it is seen as a shameful disease in our African societies that does not motivate women to talk about it, which contributes to underestimating its extent. Although benign, this pathology can greatly impair quality of life and be troublesome when painful crises are frequent [3]. In Burkina Faso, few studies have been conducted on hemorrhoids. It was at the forefront of anorectal diseases, with a male predominance [5] [6]. Men are more likely to search treatment than women in our milieu. However, none of these studies took into account the postpartum context. The aim of this work was to study hemorrhoidal thrombosis in recent mothers, in order to help improve its management.

2. Patients and Methods

This was a descriptive and analytical cross-sectional study that was carried out at Saint Camille Hospital in Ouagadougou, Burkina Faso. Data collection was prospective and took place over a period of three months from September 1 to November 30, 2019. The study population consisted of recent births. The sample size was estimated based on the Schwartz formula. In the absence of data in our context on the prevalence of external hemorrhoidal thrombosis in recent births, the proportion p was estimated at 50%. With an alpha error risk of 5%, the calculated minimum size was 384. The patients were recruited in postpartum on the basis of accidental sampling among admitted women. Postpartum women in the period between the first and sixth day postpartum, who gave their consent were included. The interview with the patients and their physical examination enabled the collection of data, supplemented by a documentary review based on the use of medical records, birth registers and health records. The proctologic examination was performed in the patients in the knee-chest position in a well-lit room allowing respect for their privacy. Patients with external hemorrhoidal thrombosis were put on treatment and re-examined one

week later during postnatal follow-up to assess the evolution. When they did not respect the appointment at the hospital, they were contacted by phone call to collect information concerning the evolution of the symptomatology. The variables studied were mainly qualitative ones including the socio-demographic characteristics of the patients, their eating habits, their lifestyle, their personal and family history of hemorrhoidal disease, their clinical characteristics, the data relating to childbirth as well as the therapeutic and progression of hemorrhoidal thrombosis. The quantitative variables were represented by the duration of labor and the birth weight of newborns. These two variables were then categorized for the purpose of analysis in search of factors associated with the occurrence of hemorrhoidal thrombosis. Data analysis was done using Epi info software in version 7.2.2.6. Multivariate analysis by logistic regression enabled us to derive Odds Ratio (OR) with a 95% confidence interval for each of the different factors studied. The significance level of the p-value retained was set at 5%. Informed patient consent was required. The confidentiality of the data collected was respected. The protocol received approval from the ethics committee.

3. Results

During the study period, 384 women were examined, 56 of whom presented with external hemorrhoidal thrombosis, a frequency of 14.6%.

3.1. Sociodemographic Characteristics of Patients with External Hemorrhoidal Thrombosis

The average age of patients who presented with external hemorrhoidal thrombosis was 29 years \pm 5.2 with extremes of 17 and 40 years. The mean gravity was 2.4 \pm 1.7 with extremes between 1 and 5. Twenty-four patients (42.9%) were first-gesture, 26 (46.4%) pauci-gesture and 06 (10.7%) multi-gesture. The average parity was 1.9 \pm 1.3 with extremes of 1 and 6. In 40.3% of cases, they were women working in the informal sector. The sociodemographic characteristics of patients with external hemorrhoidal thrombosis are summarized in **Table 1**.

3.2. Characteristics of External Hemorrhoidal Thrombosis

The external hemorrhoidal thrombosis appeared in the form of a painful swelling at the level of the anal margin in the 56 cases. The swelling was edematous in 37 cases (66.1%) and was represented by a flabby skin fold in 20 cases (35.7%).

The functional signs accompanying external hemorrhoidal thrombosis are summarized in **Table 2**.

3.3. Therapeutic and Evolutionary Aspects of External Hemorrhoidal Thrombosis

Laxatives, veinotonics drugs, step I analgesics and steroidal anti-inflammatory drugs were the types of products prescribed for the management of external hemorrhoidal thrombosis as summarized in **Table 3**.

Table 1. Sociodemographic characteristics of recent mothers with external hemorrhoidal thrombosis at saint Camille hospital in 2019 (n = 56).

Features	Effective	Percentage (%)
Age (year)		
[15 - 20]	1	1.8
[20 - 25]	11	19.6
[25 - 30]	18	32.1
[30 - 35]	14	25
[35 - 40]	11	19.6
[40 - 45]	1	1.8
Parity		
Primiparous	24	42.9
Paucipaurus	26	46.4
Multiparous	6	10.7
Place of residence		
Ouagadougou	53	94.6
Outside Ouagadougou	3	5.4
Socio-professional status		
Pupil/student	14	25
Housewife	13	23.2
Official	12	21.4
Trader	7	12.5
Seamstress	6	10.7
Hairdresser	4	7.1

Table 2. Frequency of functional digestive signs associated with external hemorrhoidal thrombosis in recent births at saint Camille hospital in 2019 (n = 56).

Functional signs	Effective	Percentage (%)
anal pain	56	100
Dyschesia	45	80.3
Constipation	33	58.9
Pruritus ani	26	46.4

Table 3. products used for the management of recent births with external hemorrhoidal thrombosis at saint Camille hospital in 2019 (n = 56).

Medications	Workforce	Percentage (%)
Diosmin	56	100
Paracetamol	55	98.2
Macrogol	34	60.7
Prednisone	1	1.7

After seven days of treatment, anal pain is completely alleviating in all patients (Table 4).

3.4. Factors Associated with the Presence of External Hemorrhoidal Thrombosis in the Postpartum

In univariate analysis, duration of labor of less than 8 hours (OR 0.2 [0.1 - 0.3]; $p \leq 0.0001$) and that between 8 and 12 hours (OR 0.2 [0.1 - 0.6]; $p = 0.0015$), birth weight of less than 3000 g (0.2 [0.06 - 0.4]; $p = 0.0001$), regular consumption of fruit (OR 0.02 [0.01 - 0.03]; $p < 0.0001$), regular consumption of fiber-rich foods (OR 0.02 [0.01 - 0.05]; $p < 0.0001$) appeared as protective factors against the occurrence of external hemorrhoidal thrombosis in the postpartum. On the other hand, the factors favoring its occurrence were represented by primiparity (OR 15.9 [3 - 84.5]; $p = 0.0011$), vaginal delivery (OR 19.2 [2.6 - 141.1]; $p = 0.004$), obstructed labor (OR 2.3 [1.3 - 4.2]; $p = 0.003$), constipation (32.2 [15.1 - 68.4]; $p < 0.0001$), dyschezia (47.5 [21.9 - 102.7]; $p < 0.0001$), personal history of hemorrhoidal disease (OR 13.2 [6.9 - 25.3]; $p < 0.0001$), and family history of hemorrhoidal disease (OR 0.6 [2.5 - 15.6]; $p = 0.0001$) (Table 5).

In multivariate analysis, dyschezia (OR 37.4 [6.8 - 205.7]; $p < 0.0001$) and personal history of hemorrhoidal disease (OR 23.9 [3.3 - 174.2]; $p = 0.002$) were risk factors for EHT in the postpartum period. Consumption of fruit (OR 0.04 [0.008 - 0.3]; $p = 0.0006$) and foods rich in dietary fiber (OR 0.02 [0.002 - 0.3]; $p = 0.003$) were protective factors against the occurrence of this risk (Table 6).

4. Discussion

The frequency of external hemorrhoidal thrombosis in recent births was 14.6%. This result is comparable to those of Sehonou *et al.* [7] in Benin who found 14.8%. On the other hand, Abramovitz *et al.* [8] in France found a higher frequency respectively of 20%. Sitting posture during defecation is a factor that distinguishes developed regions from undeveloped regions [9] [11] in terms of the risk of occurrence of external hemorrhoidal thrombosis. In societies that have adopted Western toilets, the position during defecation is that of sitting, as opposed to the squatting position in traditional toilets [9] [10]. Subjects would likely spend more time on the seated toilet than on the squat toilet [10], which could apply to most women in our study.

The average age of the patients was 29 years old. This result is similar to that

Table 4. Evolution after seven days of treatment of external hemorrhoidal thrombosis in recent births at saint Camille hospital in 2019 (n = 56).

Evolution	Effective	Percentage (%)
Amendment of anal pain	56	100
Amendment of the THE*	14	25
Aftermath Marks	42	75

*EHT: External Hemorrhoidal Thrombosis.

Table 5. Univariate analysis looking for factors associated with the occurrence of external hemorrhoidal thrombosis in recent births at saint Camille hospital in 2019.

Factors	EHT	No EHT	OR [95% CI]	p-value
Parity				
Primiparous (1)	5	2	15.9 [3 - 84.5]	0.0011
Multiparous > 1	51	326		
Delivery route				
Vaginal delivery	55	243	19.2 [2.6 - 141.1]	0.004
Caesarean section	1	85		
Type of birth				
Obstructed labor	30	108	2.3 [1.3 - 4.2]	0.003
Normal labor	26	220		
Sedentary lifestyle				
Yes	55	314	2.4 [0.3 - 19]	0.391
No	1	14		
Obstetric maneuver				
Yes	32	13	1.16 [0 - 1.2]	0.974
No	24	315		
Birth weight in grams (g)				
<3000	5	126	0.2 [0.06 - 0.4]	0.0001
≥3000	51	202		
Constipation				
Yes	33	14	32.2 [15.1 - 68.4]	<0.0001
No	23	314		
Dyschesia				
Yes	45	26	47.5 [21.9 - 102.7]	<0.0001
No	11	302		
Regular consumption of fruit				
Yes	15	311	0.02 [0.01 - 0.03]	<0.0001
No	41	17		
Regular consumption of fiber-rich foods				
Yes	30	322	0.02 [0.01 - 0.05]	<0.0001
No	26	6		
Personal history of hemorrhoidal disease				
Yes	33	32	13.2 [6.9 - 25.3]	<0.0001
No	23	296		
Family history of hemorrhoidal disease				
Yes	10	11	0.6 [2.5 - 15.6]	0.0001

Continued

No	46	317		
Duration of labor (hour)				
<8	18	153	0.2 [0.1 - 0.3]	<0.0001
[8 - 12]	10	60	0.2 [0.1 - 0.6]	0.0015
[12 - 24]	19	27	0.7 [0.2 - 1.8]	0.431
≥24	9	19		

of Abramowitz *et al.* [8] in France who found an average age of 30.6 years. According to some authors, there is no predilection age for the occurrence of external hemorrhoidal thrombosis postpartum [11] [12]. However, it is recognized that advanced age is responsible for a weakening of connective tissue and therefore could favor the occurrence of hemorrhoidal thrombosis [13].

The diagnosis of external hemorrhoidal thrombosis was made by painful swelling at the anal margin in all patients. This result was consistent with that of Abramowitz *et al.* France [8]. External hemorrhoids are vascular structures located below the pectineal line under the anal margin, which would explain this symptomatology at the level of the anal margin following the mechanical and/or vascular factors responsible.

Anal pain was the most frequent functional sign with a percentage of 100%. This result was similar to that of Poskus *et al.* [14] in Lithuania who found a frequency of 98.4% in recent births. Anal pain is the warning sign of external hemorrhoidal thrombosis [15] [16].

Pruritus ani was found in 48.2% of cases. This result is much lower than that of Poskus *et al.* [14] in Lithuania (80.5%). In fact, pruritus is one of the signs of external hemorrhoidal thrombosis [17]. This difference in results could be explained by the fact that in our series, several women presented with external hemorrhoidal thrombosis in the immediate postpartum period; distinguishing pruritus from pain in this context was therefore difficult for them.

After seven days of treatment, anal pain is completely almond in 100% of patients; marisques were found in 75% of patients. Our data are consistent with those observed in the literature [18] [19] which state that the therapeutic effects generally occur after 3 to 5 days.

As for the marisk, it constitutes a sequela of the external hemorrhoidal thrombosis and can often testify to a history of hemorrhoidal disease. It is very often a source of aesthetic discomfort and may require surgical treatment [3] [20].

Dyschezia in our series represented a risk factor for the occurrence of external hemorrhoidal thrombosis (OR = 37.4; p = 0.0001). Abramowitz *et al.* [18] in France also found dyschezia to be a risk factor. It is a frequent sign during the third trimester of pregnancy, attributable to the compression of the colon by the gravid uterus [19]. Diarrhea, although not identified in our series, is a factor

Table 6. Multivariate analysis looking for factors associated with the occurrence of external hemorrhoidal thrombosis in recent births at saint Camille hospital in 2019.

Factors	EHT	No EHT	OR [95% CI]	p-value
Parity				
Primiparous (1)	5	2	3.9 [0.03 - 456.1]	0.573
Multiparous > 1	51	326		
Delivery route				
Vaginal delivery	55	243	37.8 [0.2 - 8766.6]	0.191
Caesarean section	1	85		
Type of birth				
Obstructed labor	30	108	2.7 [0.2 - 37.5]	0.446
Normal labor	26	220		
Birth weight in grams (g)				
<3000	5	126	0.2 [0.02 - 1.5]	0.116
≥3000	51	202		
Constipation				
Yes	33	14	4.4 [0.8 - 22.9]	0.074
No	23	314		
Dyschesia				
Yes	45	26	37.4 [6.8 - 205.7]	<0.0001
No	11	302		
Regular consumption of fruit				
Yes	15	311	0.04 [0.008 - 0.3]	0.0006
No	41	17		
Regular consumption of fiber-rich foods				
Yes	30	322	0.02 [0.002 - 0.3]	0.003
No	26	6		
Personal history of hemorrhoidal disease				
Yes	33	32	23.9 [3.3 - 174.2]	0.002
No	23	296		
Family history of hemorrhoidal disease				
Yes	10	11	0.4 [0.03 - 6.5]	0.547
No	46	317		
Duration of labor (hour)				
<8	18	153	0.5 [0.02 - 15.7]	0.707
[8 - 12[10	60	0.5 [0.04 - 6.7]	0.617
[12 - 24[19	27	0.09 [0.003 - 2.4]	0.154
≥24	9	19		

associated with the occurrence of external hemorrhoidal thrombosis generally found [21] [22] [23]. Indeed, the increase in stool frequency would be responsible for irritation of the anal region [20] [24].

The personal history of hemorrhoidal pathology was a risk factor for external hemorrhoidal thrombosis. Poskus *et al.* [14] in Lithuania also made the same observation. Heredity would therefore be incriminated in the occurrence of external hemorrhoidal thrombosis [25]. However, many authors [3] [26] mentioned in their study the history of hemorrhoidal pathology without however establishing statistical proof.

Consumption of fiber-rich foods and fruits has been found to reduce the risk of external hemorrhoidal thrombosis in recent mothers. The authors [14] [15] [18] recommend in most cases the consumption of fruits and foods rich in fiber in the prevention and treatment of constipation without, however, establishing a statistical link between the reduction in the risk of external hemorrhoidal thrombosis in the postpartum period and the consumption of these foods. However, the fight against constipation would act indirectly on the reduction of excessive pushing during bowel movements [20].

The limits of our study resided in the fact that some patients did not honor their appointment of control, which did not make it possible to carry out a physical examination of appreciation of the evolution of the hemorrhoidal thrombosis in these lost of sight. However, a telephone call made it possible to collect some data on the evolution of the symptomatology.

5. Conclusions

External hemorrhoidal thrombosis remains a complication to be taken into account during the monitoring of postpartum women. Consumption of foods and fruits rich in fiber seem to reduce the risk of its occurrence. It is therefore important to encourage pregnant women to consume such foods and fruits.

A prospective and multicenter study on external hemorrhoidal thrombosis in pregnant women and in the postpartum could allow to better estimate the frequency and the risk factors.

Authors' Contributions

HZ: Design of the study, conduct of the study, analysis of the results, writing of the manuscript, approval of the manuscript. AC: Design of the study, analysis of the results, writing of the manuscript, approval of the manuscript. DPK: Design of the study, analysis of the results, writing of the manuscript, approval of the manuscript. SK: Design of the study, analysis of the results, writing of the manuscript, approval of the manuscript. SMKS: Design of the study, conduct of the study, analysis of the results, writing of the manuscript, approval of the manuscript. AO: Design of the study, conduct of the study, analysis of the results, writing of the manuscript, approval of the manuscript.

Acknowledgements

The authors are very grateful to the director of the Saint Camille hospital for having authorized the collection of data.

Conflicts of Interest

The authors have no conflicts of interest.

References

- [1] College of Universities in Hepato Gastro Enterology (2015) Hemorrhoidal Pathology. In: *Compendium of Hepato-Gastro-Enterology and Digestive Surgery (3rd Edition)*, Elsevier Masson, Paris, 1-11.
- [2] Lawrence, A. and Mc Laren, E.R. (2019) External Hemorrhoid. StatPearls, Treasure Island. <http://www.ncbi.nlm.nih.gov/books/NBK500009/>
- [3] National College of French Gynecologists and Obstetricians (2009) Proctology in Gynecology-Obstetrics. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, **34**, 513-519.
- [4] Avsar, A.F. and Keskin, H.L. (2010) Haemorrhoids during Pregnancy. *Journal of Obstetrics and Gynaecology*, **30**, 231-237. <https://doi.org/10.3109/01443610903439242>
- [5] Sawadogo, A., Bonkougou, P., Serme, A.K., Millogo, A., Andonaba, J.B., Kamboule, B.E., *et al.* (2007) Hemorrhoidal Disease at the Souro Sanou Teaching Hospital in Bobo-Dioulasso, Burkina Faso. *Médecine d'Afrique Noire*, **54**, 349-351.
- [6] Coulibaly, A., Kafando, R., Somda, K.S., Doamba, C., Koura, M., Somé, C.C., *et al.* (2016) The Haemorrhoids' Pathology: Epidemiological, Diagnostic, Therapeutic and Evolutionary Aspects. *Open Journal of Gastroenterology*, **6**, 343-352. <https://doi.org/10.4236/ojgas.2016.611037>
- [7] Sehonou, J., Wanvoegbe, A., Kpoussou, A., Agbodande, A., Dah-Bolinon, R., Azon-Kouanou, A., *et al.* (2015) Haemorrhoidal Disease in Cotonou: Epidemiological, Clinical and Anoscopic Aspects. *Open Journal of Gastroenterology*, **5**, 77-82. <https://doi.org/10.4236/ojgas.2015.57013>
- [8] Abramowitz, L. and Batallan, A. (2003) Epidemiology of Anal Lesions (Fissure and External Hemorrhoidal Thrombosis) during Pregnancy and Postpartum. *Gynécologie Obstétrique & Fertilité*, **31**, 546-549. [https://doi.org/10.1016/S1297-9589\(03\)00127-9](https://doi.org/10.1016/S1297-9589(03)00127-9)
- [9] Sakakibara, R., Tsunoyama, K., Hosoi, H., Takahashi, O., Sugiyama, M., Kishi, M., *et al.* (2010) Influence of Body Position on Defecation in Humans. *Lower Urinary Tract Symptoms*, **2**, 16-21. <https://doi.org/10.1111/j.1757-5672.2009.00057.x>
- [10] Sandler, R.S. and Peery, A.F. (2019) Rethinking What We Know about Hemorrhoids. *Clinical Gastroenterology and Hepatology*, **17**, 8-15. <https://doi.org/10.1016/j.cgh.2018.03.020>
- [11] Nyst, F.J. (2015) Hemorrhoidal Thrombosis: Treatment in the Office. *Revue Médicale de Bruxelles*, **36**, 278-280.
- [12] Peery, A.F., Sandler, R.S., Galanko, J.A., Bresalier, R.S., Figueiredo, J.C., Ahnen, D.J., *et al.* (2015) Risk Factors for Hemorrhoids on Screening Colonoscopy. *PLOS One*, **10**, e0139100. <https://doi.org/10.1371/journal.pone.0139100>
- [13] Suggesterman, D.T. (2014) Hemorrhoids. *The Journal of the American Medical Association*, **312**, 2698. <https://doi.org/10.1001/jama.2014.281>

- [14] Poskus, T., Buzinskienė, D., Drasutiene, G., Samalavicius, N., Barkus, A., Barisauškiene, A., *et al.* (2014) Haemorrhoids and Anal Fissures during Pregnancy and after Childbirth: A Prospective Cohort Study. *BJOG: An International Journal of Obstetrics & Gynaecology*, **121**, 1666-1671. <https://doi.org/10.1111/1471-0528.12838>
- [15] Zeitoun, J.D. and Parades, V. (2011) Hemorrhoidal Pathology: From Physiopathology to Clinic. *La Presse Médicale*, **40**, 920-926. <https://doi.org/10.1016/j.lpm.2011.06.017>
- [16] Quijano, C.E. and Abalos, E. (2005) Conservative Management of Symptomatic and/or Complicated Haemorrhoids in Pregnancy and the Puerperium. *Cochrane Database of Systematic Reviews*, **3**, CD004077. <https://doi.org/10.1002/14651858.CD004077.pub2>
- [17] Freymond, J.M., Chautems, R., Della Santa, V. and Wolter, L. (2018) Proctological Emergencies in Pregnant Women. *Revue Médicale Suisse*, **14**, 1394-1396. <https://doi.org/10.53738/REVMED.2018.14.614.1394>
- [18] Abramowitz, L., Benabderrhamane, D., Philip, J., Pospait, D., Bonin, N. and Merrouche, M. (2011) Hemorrhoidal Pathology of the Parturient. *La Presse Médicale*, **40**, 955-959. <https://doi.org/10.1016/j.lpm.2011.06.015>
- [19] French National Society of Colo-Proctology (2020) Hemorrhoids. SNFCP. <https://www.snfcop.org/informations-Maladies/hemorroides/les-hemorroides/>
- [20] Higuero, T. (2014) Treatment of Hemorrhoidal Pathology: New Recommendations. https://www.fmcgastro.org/textes-postus/no-postu_year/traitement-de-la-pathologie-hemorroidaire-les-nouvelles-recommandations/
- [21] Yamana, T. (2018) Japanese Practice Guidelines for Anal Disorders I. Hemorrhoids. *Journal of the Anus, Rectum and Colon*, **1**, 89-99. <https://doi.org/10.23922/jarc.2017-018>
- [22] Lee, J.H., Kim, H.E., Kang, J.H., Shin, J.Y. and Song, Y.M. (2014) Factors Associated with Hemorrhoids in Korean Adults: Korean National Health and Nutrition Examination Survey. *Korean Journal of Family Medicine*, **35**, 227-236. <https://doi.org/10.4082/kjfm.2014.35.5.227>
- [23] Bocoum, A., Fané, S., Traoré, S.O., Kanté, I., Sima, M., Traoré, A., *et al.* (2021) Anal Pathologies during Pregnancy and Postpartum: Diagnosis and Treatment at the CHU Gabriel Touré. *Health Sciences and Disease*, **22**, 89-96.
- [24] Lohsiriwat, V. (2012) Hemorrhoids: From Basic Pathophysiology to Clinical Management. *World Journal of Gastroenterology*, **18**, 2009-2017. <https://doi.org/10.3748/wjg.v18.i17.2009>
- [25] Gami, B. (2011) Hemorrhoids—A Common Ailment among Adults, Causes & Treatment: A Review. *International Journal of Pharmacy and Pharmaceutical Sciences*, **3**, 5-12.
- [26] Derbyshire, E.J., Davies, J. and Detmar, P. (2007) Changes in Bowel Function: Pregnancy and the Puerperium. *Digestive Diseases and Sciences*, **52**, 324-328. <https://doi.org/10.1007/s10620-006-9538-x>