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Antibioprophylaxis in cesarean section: what are the current practices in hospitals in Benin?

Dohou A.M [1-2],Buda V.O[3], Yemoa AL[2], Anagonou S[2], Van Bambeke F[1], Van Hees T[4], Dossou F[2], Dalleur O[1]

1 Louvain Drug Research Institute, Université catholique de Louvain, Belgium.
2 Faculté des Sciences de la santé, Université d'Abomey Calavi, Bénin.
3 Victor Babes University of Medicine and Pharmacy, Romania.
4 Center for Interdisciplinary Research on Medicines, Université de Liège, Belgium.

Author's e-mail: andupele@yahoo.fr

Introduction

Cesarean delivery is free for the patients in **Benin** since 2009 [1] and therefore, this practice is increasing. Good practice of antibioprophylaxis for cesarean delivery has been shown to reduce the incidence of postoperative infectious morbidty[2]. Moreover, the choice of antibiotics used for prophylaxis have to be optimal to avoid the risk of antimicrobial resistance[3].

Aim :To assess the quality of antibioprophylaxis in cesarean section according to the "five conventional criteria of antibioprophylaxis"[4] (i.e.: **right indication, molecule, dose, timing, duration).**

Methods

We conducted a prospective observational study in **four hospitals** in the south of Benin over a period of **1 month**.

Data was collected by trained survey teams.

Table1: Patients characteristics.

Number of patients, N(%)	141 (100%)
Emergency case, N(%)	115 (81.6%)
Median age (years)	28.05 ± 4.8 [17 - 42]
Median intervention duration (min)	39.23 ± 12 [13 - 75]

Table 2: The most frequently used antibiotics regimens.

Molecule	Patients N (%)
Amoxiclav + Metronidazole	38 (26.9%)
Ampicillin + Gentamicin	31 (22 %)
Ampicillin + Metronidazole	26 (18.4%)
Ampicillin+ Gentamicin+ Metronidazole	24 (17%)

Results

141 cesareans were observed (81.6% emergency cases, n = 115) .

▪ **99.3% of women undergoing cesarean** intervention received an antibiotic (n =140).

▪The antibiotics used in the hospitals **were not those recommended** by the guidelines: *(metronidazole, ampicillin, gentamicin, ciprofloxacin, ceftriaxone, amoxiclav, ceftriaxone + sulbactam* ***vs*** *cefazolin).*
Moreover, in the same hospital, **three to sixteen** different regimens were prescribed and patients received up to **five antibiotics (Figure 2).**

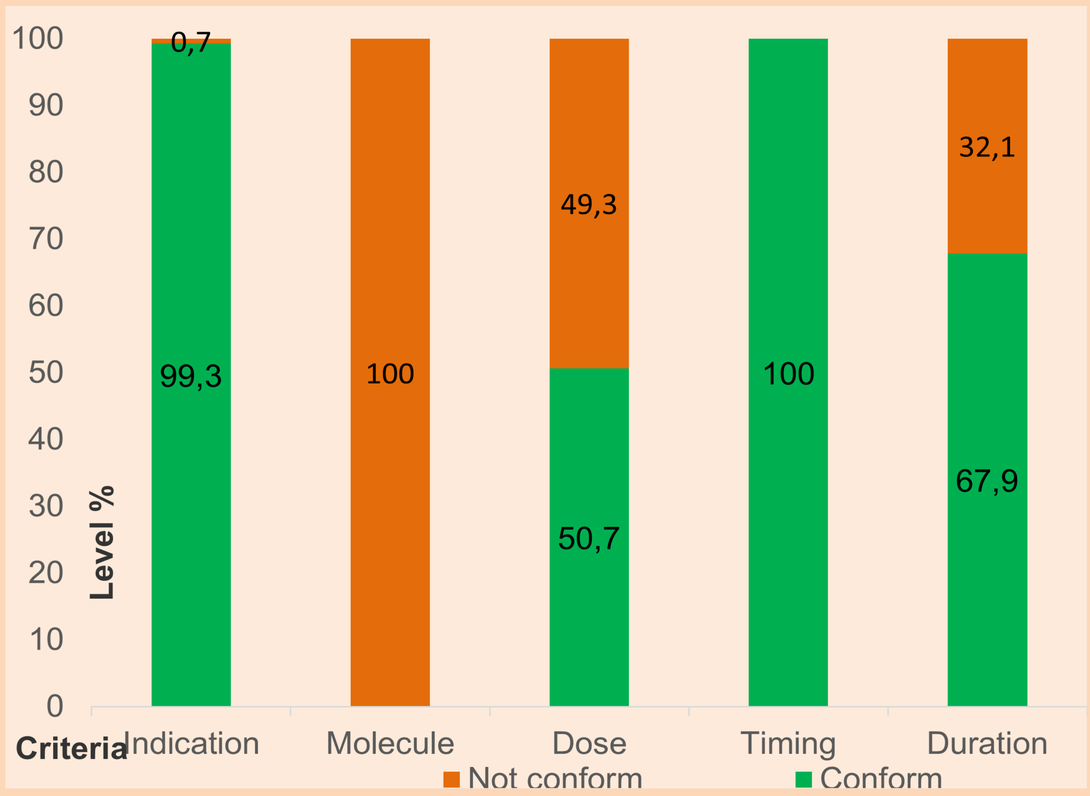
▪ **50.7%** (n = 71) of patients **received the recommended dose** of antibiotic for the first administration.

▪**100% of women** received the **antibiotic in the hour** before the incision or after the cord clamping.

▪The **right antibioprophylaxis period** was done in **67.9%** of cases and it was continued for **more than the recommended 48 hours** in 32.1 % of cases.

The practices of antibioprophylaxis were different through the four hospitals.

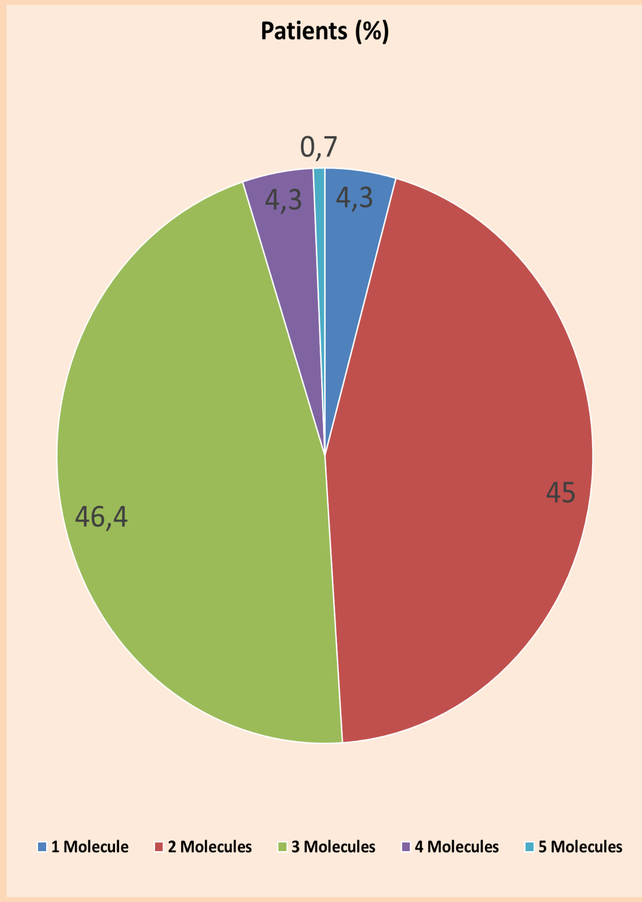
Figure 1 : Level of achievement of the conventional criteria of antibioprophylaxis.



Conclusion

- Most cesareans were emergency.
- In the four hospitals, **the practices of antibioprophylaxis** in cesarean intervention **were not uniform** and the use of the antibiotics was not as recommended.
- **Broad-spectrum antibiotics** were used in prophylaxis, **increasing the risk of selection antibiotic resistance**, which is an important threat to public health.
- Further investigations are needed to understand the reasons of this practice and to develop solutions to improve antibioprophylaxis in cesarean section and other interventions in Benin.

Figure 2: Number of molecules used per patient.



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