

The Prescription of Antibiotics in ENT Diseases in the ENT and Surgery Department Cervico-Facial at Sikasso Hospital

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Abstract

Original Research Article

Antibiotics are chemical compounds elaborated by a micro-organism or produced by synthesis and whose specific activity manifests itself in doses on the micro-organisms. They are commonly used in the management of infectious pathologies in ENT and Cervico-Facial Surgery. This study aims to evaluate the use of antibiotics in the therapeutic arsenal in the ENT-CCF department of the Sikasso hospital. This is a 4-month prospective study from November 1, 2016 to February 28, 2017 on the prescription of antibiotics in the ENT department of Sikasso hospital. Four hundred (400) patients were included in this study. The following variables were collected: gender, age, occupation, reason for consultation, history, prescription and evolution. During the study period 400 patients were retained. Among which 293 benefited from a prescription of antibiotics that is 73.25% of the cases and (107 cases) 26.75% without antibiotics. The female sex was predominant with 57% of cases, i.e. a sex ratio of 1.32. More than half of the work force were made up of learners and preschoolers. The reasons for consultation were dominated by otalgia with 35.8% followed by odynophagia in 15% of cases. 76.75% of our patients had no history. The prevalence of antibiotic therapy was 73.25%, including 49.83% amoxi+clavulanic acid, 10.92% cephalosporin, 10.60% macrolides, 3.75% sulfonamides, 1.70% amoxicillin and ear drops in 23.2% of cases. Apart from antibiotic therapy, antihistamines were the most prescribed with 32.75% followed by nasal corticosteroids in 23.36% of cases. Non-steroidal anti-inflammatory drugs were associated with the antibiotic in 33.78%, followed by the analgesic-nasal corticosteroid- antihistamine combination in 15.35% of cases. The evolution was favorable in 83.62% of cases, unfavorable in 10.92% of cases and 5.46% of patients did not show up for the check-up appointment on the 7th day. It was a prospective study of four (04) months on the place of antibiotic therapy in the therapeutic arsenal of the ENT department of Sikasso hospital. During the study, 400 patients were collected, of whom 73% received an antibiotic prescription with a female predominance. The workforce was quite young and the reasons for consultation were dominated by otalgia. The evolution was favorable in the majority of cases. In a context of difficulty for patients to perform an antibiogram (microbiological examination), we opted for probabilistic antibiotic therapy.

Keywords: Antibiotics, Antibiotic therapy, Prescriptions, ENT-CCF pathologies.

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INTRODUCTION

Antibiotic therapy is one of the pillars of therapy used in Otorhinolaryngology (ENT) worldwide [1].

In France, in 2015, ENT pathologies represent the main reason for prescribing antibiotics 42% ahead of respiratory tract disorders 25% [2].

In Mali, very few studies have concerned this prescription of antibiotics in ENT, however a Master 2

study in ENT conducted in 2016 at the CHU Gabriel Touré in Bamako revealed a prevalence of 60.97% [3].

Oral infections are usually treated with antibiotics.

This high prevalence in the largest ENT department in the country motivated the present study in the ENT department of the regional hospital of Sikasso.

MATERIAL AND METHOD

It was a four (4) month prospective study from November 1, 2016 to February 28, 2017 on the prescription of antibiotics in the ENT department of Sikasso hospital.

Were Included: Any patient received in consultation (new cases), benefiting from a prescription and having given his consent/assent.

Were Excluded: Patients without a prescription, former patients and those who did not give their consent/assent.

Information was obtained during questioning and physical examination and recorded on survey sheets designed for this purpose.

Data were entered and interpreted using IBM-SPSS V19 software.

RESULTS

During the study period, 400 patients were selected, of whom 293 received a prescription containing at least one antibiotic, ie 73.25%.

Women were the most represented in 57% of cases, i.e. a sex ratio of 1.32.

The average age of our patients was 41.2 years with extremes of 2 months to 82 years and the age group 0-9 years was the most represented, i.e. 29.3%, the over 40s were the least represented (Table 1).

Table 1: Distribution of patients according to age groups

Age Range	Workforce	%
[0-9 Years]	117	29.30
[10-19 Years]	72	18.00
[20-29 Years]	57	14.10
[30-39years]	61	15.30
[40-49 Years]	34	8.50
[50 Years And Over]	59	14.80
Total	400	100.0

Learners (pupil, student) represented more than a quarter of the workforce with (112/400) followed by children of preschool age (89/400) (Table 2).

Table 2: Breakdown of patients by profession

Occupation	Workforce	%
Pupil/Student	112	28.00
Child/Preschool	89	22.10
Household	80	20.00
Official	68	17.0
Worker	21	5.3
Trader	17	4.30
Farmer	11	2.80
Other	2	0.50
Total	400	100.0

Painful complaints motivated more consultations and were mainly made up of otalgia in 35.8%, followed by odynophagia with 15% (table 3).

Seventy-six percent of patients had no known medical and surgical history (Table 4).

Table 3: Breakdown of patients by reason for consultation

Reasons for Consultations		Workforce	%
Otology	Otalgia	143	35.75
	Otorrhea	40	10.0
	Tinnitus hypoacusis	41	10.25
	Dizziness	5	1.25
Rhinology	Nasal obstruction	32	8.00
	Nasal obstruction + headache + rhinorrhea	45	11.25
	Epistaxis	6	1.50
	Cacosmia	4	1.00
	Rhinorrhea	3	0.50
Laryngology	Odynophagia	60	15.00
	Dysphonia	5	1.25

Reasons for Consultations		Workforce	%
Cervical	Dyspnea	2	0.50
	Dysphagia	1	0.25
	Cervical cellulitis, adenophlegmons	6	1.50
	Sub maxillitis, parotitis	3	0.75
	Goitre	4	1.00
Total		400	100

Table 4: Breakdown by medical and surgical history

Background	Workforce	%
High blood pressure	3	0.75
Diabetes	2	0.50
Gastroesophageal reflux	62	15.50
Allergy/atopic terrain	10	2.50
HTA-Diabetes-GERD	5	1.25
Allergy-GERD-HTA	11	2.75
No notable history	307	76.75
Total	400	100.00

HTA=Arterial hypertension, GERD=Gastroesophageal reflux disease

The frequency of antibiotic prescription was 73.25%. Amoxi + clavulanic acids were the most prescribed molecules in 49.83% cases, followed by

cephalosporins with 10.92% of cases; macrolides 10.60% of cases; 3.75% sulfonamides and ear drops in 23.2% of cases (Table 5).

Table 5: Distribution of patients according to the antibiotic prescribed and the route of administration

Pathologies	Antibiotics used	V of adm	Number	%
Sinusitis	3rd G cephalosporins	Per os	29	9.90
Nasopharyngitis	Amoxi+clavulanic acid	Per os	13	4.43
Nasal cavity tumor	3rd G cephalosporins	Per os	03	1.02
Otitis (OMA, OMC, OE)	Amoxi+clavulanic acid	Per os	79	26.96
	Sulfonamides	Per os	11	3.75
	Polydexa drops	Local	38	12.97
	oflotet drops	Local	30	10.23
Otomastoiditis	Amoxi+clavulanic acid	Injectable	01	0.34
Ear trauma	Amoxicillin	Per os	05	1.70
Tonsillitis	Amoxi+clavulanic acid	Per os	33	11.26
	Amoxi+clavulanic acid	Injectable	02	0.70
Pharyngitis	Macrolides	Per os	31	10.60
cellulitis	Amoxi+clavulanic acid	Injectable	07	2.39
Adenophlegmons	Amoxi+clavulanic acid	Injectable	01	0.34
Other pathologies	Amoxi+clavulanic acid	Injectable	10	3.41
Total			293	100

AOM=acute otitis media, OMC=chronic otitis media OE=otitis externa

Polydexa: dexamethasone+neomycin+polymyxin B Oflocet: Ofloxacin

C3G: 3rd generation cephalosporins, #: number;

V Adm: route of administration

Other pathologies: Laryngitis, adenitis, parotitis, submaxillitis, cervico-facial wounds.

nasal corticosteroids in 23.36% of cases; hemostatics were the least used in 3.73% and 5 doses of serotherapy were administered for traumatic wounds (Table 6).

Apart from antibiotics, antihistamines were the most prescribed with 32.75% of cases, followed by

Tables 6: Other prescriptions besides antibiotics

Medications	Workforce	%
Corticosteroids	12	11.21
Nasal corticosteroid	25	23.36
Nasal decongestant	8	7.47

Medications	Workforce	%
Ipp/prokinetics	7	6.54
Anti-vertiginous	5	4.67
Antihistamine	35	32.75
Neurotonics	6	5.60
Hemostats	4	3.73
SAT/VAT	5/3	4.67/2.80
Total	107	100

Non-steroidal anti-inflammatory drugs were associated with antibiotics in 27.30% of cases; follow

up the analgesia-nasal corticosteroid-antihistamine combination in 15.35% of cases (table 7).

Tables 7: Distribution of patients according to the combination of one or more drugs with antibiotics

Medications	Workforce	%
NSAIDs	80	27.30
Analgesic + corticosteroid Nasal+Antihistamine	45	15.35
Corticosteroids + Ipp	10	3.41
Nasal corticosteroid + Antihistamine	29	9.89
appetite stimulant	22	7.50
Nasal corticosteroid + analgesic	20	6.82
NSAIDs+Ipp and/or gastric dressing	19	6.48
Analgesic	17	5.80
Antihistamine + Analgesic	15	5.11
DRP+Antihistamine	30	10.30
Nasal Decongestant	6	2.04
Total	293	100.0

NSAIDs: Nonsteroidal anti-inflammatory, *PPI*: Proton pump inhibitor, *DPR*: Nasopharyngeal clearing

The evolution under treatment was favorable in 83.62% of the cases, unfavorable without aggravation in 5.80%, unfavorable with aggravation in

5.12% and 5.46% of the patients did not present themselves at the control (Table 8).

Tables 8: Distribution of patients according to evolution at the follow-up appointment after 7 days

Evolution	Workforce	%	
Favorable	245	83.62	
Unfavorable	Without aggravation	17	5.80
	With aggravation	15	5.12
Not seen at 7 day appointment	16	5.46	
Total	293	100.0	

DISCUSSION

ENT disorders, due to their frequency and sometimes their seriousness, may require the use of antibiotics in order to minimize the occurrence of complications and are often associated with surgical procedures.

The prevalence of antibiotic prescriptions was 73.25% in our work. It was lower than that of Abdoulaye Keita in Guinea who brought in 82.8% but higher than those of Ag Salim in Bamako and Rakotoarisoa Ahn in Antananarivo with 60.9% and 49.8% respectively [1, 3, 4].

This strong demand for antibiotics could be explained by the frequency of the infectious pathologies encountered.

In France, in 2015 ENT pathologies represented the main reason for prescribing antibiotics 42% before respiratory tract damage 25% [2].

Women predominated in our study, however in the literature opinions are divided without having an explanation [1, 3-6].

The distribution of patients according to age groups presents three modes with peaks at [0-9 years [, [10-19 years [and [30-39 years] (table 1).

We believe that the first peak corresponds to the adaptation period childhood, in which upper respiratory tract infections are common [3, 5, 7, 8].

During the second decade, angina, sinusitis, chronic otitis media and non-tuberculous adenitis were

the most frequent. Confirmed cases of blood disease or lymph node tuberculosis were referred.

Chronic pharyngitis, cellulitis, chronic otitis, purulent sinusitis and nasal cavity tumors were mainly the prerogative of adults from their thirties.

In general, the approach to ENT infections is mainly empirical and the main objective of the antibiotic being to cover the most probable pathogens [10].

However H Babar-Craig *et al.*, in England are not of opinion on the prevention by antibiotic prophylaxis of rhinological pathologies [10].

The management of ENT infectious pathologies is medical and/or surgical, antibiotics occupy a place of choice in this therapeutic arsenal, it is most often probabilistic from the patient's admission and can be adapted to the antibiogram [1].

Thus the most frequently prescribed antibiotics were beta-lactams 62.45%, followed by macrolides 10.60% and sulfonamides 3.75%.

For beta-lactams, the molecule most commonly used was the association amoxi+clavulanic acid with 49.83%, followed by Cefpodoxime proxetil with 10.92% and amoxicillin alone 1.70%. Ear drops mainly included quinolones, polypeptides and aminoglycosides were the least used because of their ototoxic effects. In our study, as in the literature, beta-lactams occupy the head of the pack of antibiotic prescriptions in ENT disorders [9, 11-13].

The primacy of the prescription of amoxi + clavulanic acid compared to other beta-lactams in our study is essentially based on its broad spectrum covering most otopathogens unlike amoxicillin [1].

The other drug prescriptions apart from antibiotic therapy, were mainly antihistamines in 32.75%, followed by nasal corticosteroids with 23-36%, hemostatics with 3.73% and nasal decongestants were the least used with only 2, 04%.

This denotes the importance of allergic conditions in the concert of ENT pathologies that we encounter and which do not necessarily require the prescription of antibiotics. For Vijay, allergic rhinitis was the most common diagnosis, linked to the presence of allergens in their study area due to climatic conditions [14].

Anish Giri *et al.*, Used more nasal decongestants with 44.19% than antihistamines [9].

Apart from the use of antibiotics, antihistamines, nasal corticosteroids; NSAIDs alone

27.30% or in combinations 6.48% were the molecules most used during our work.

These data are lower than those of AG SALIM and Abdoulaye Keita reported on the contrary a frequency of prescription of analgesics as associated treatment with respectively 44.3% and 79.6% [13].

At the appointment of the 7th day, the evolution was favorable under probabilistic antibiotic therapy in 83.62% of the cases, unfavorable in 10.92% and 5.46% of the patients did not show up for the check-up. This result is close to that of RABEMANANJARA ANTSA MURIELA who reports a favorable evolution in 96.51% as well as AG SALIM with 94% of cases [3, 5], but higher than that of ABDOULAYE KEITA at the regional hospital of Labé in Guinea with 81.25% [1].

CONCLUSION

Our study focused on the prescription of antibiotics in the ENT and Surgery department. Cervico-Facial at Sikasso Hospital for a period of four (04) months from November 2016 to February 2017. The study was prospective and involved a sample of 400 patients seen in consultation during the period.

We noted a female predominance with 228/400 or 57% of cases. The workforce was quite young with almost a third made up of less than 10 years old or 29.3%. Three quarters of our patients had no medical and surgical history.

Antibiotic prescription in the ENT department of Sikasso hospital seems to respect an order dominated by amoxi+clavulanic acid with 49.83%, followed by ear drops with 23.2%, 3rd generation cephalosporins with 10.92% macrolides with 10.60%, sulfonamides and amoxicillin with 3.75% and 1.70% respectively.

Otological pathologies dominated the table of prescriptions with 55.95% followed by pharyngeal disorders in 22.9%, rhinological 14.33% and cervico-facial infectious pathologies with only 2% of cases. The evolution under treatment was favorable in 83.62%, unfavorable in 10.92% and 5.46% of the patients did not respond to the follow-up appointment on the 7th day.

Upper airways diseases remain a frequent reason for prescribing antibiotics but especially beta-lactams in our practice. Besides beta-lactams other pharmaceutical groups are used. We recommend all the time a rational use of drugs to avoid the appearance of resistance, in spite of our context of under medicalization.

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