

## 10. GUIDELINE AND TEMPLATE FOR WRITING A CASE REPORT/CASE SERIES

The order in which you draft the different parts of your case report does not correspond to how you will build your manuscript for submission. The first part of this guideline suggests how you should go about writing your first draft and the second part indicates in what format it should be submitted for publication.

### Part One: Writing a First Draft

#### Writing the core of your case report: clinical findings and outcome

##### Step 1: state the obvious

Start by asking yourself: What are we talking about? Whom are we talking about? Why is this observation important? Who needs to know about this case?

##### Example

Tuberculosis – Severely malnourished child – Atypical presentation of the disease – Pediatricians in humanitarian and resource-limited settings

##### Step 2: what do we know about the patient?

What are the patient's demographic characteristics? What is his/her past history? What were his/her symptoms upon presentation?

##### Example

Two-and-a-half-year-old girl – Severely malnourished – Painless magnifying nodes all over the body

##### Step 3: what did we find upon clinical examination?

No fever, no cough – child responsive but refuses to walk – nodes are painless and elastic – no infectious focus

##### Step 4: what tests did we carry out? What did they show?

The child was anemic, tested positive for malaria, negative for syphilis and HIV – Ultrasound: lack of collection in nodes, lungs normal, abdominal ultrasound normal except for splenomegaly – Final needle aspiration [...] – Ziehl Neelsen stain not possible, because of resource-limited setting [...]

Step 5: what was the diagnosis?

Ganglionic puncture in favor of granulomatous lymphadenitis, most probably extrapulmonary tuberculosis

Step 6: How was the patient treated?

We initiated anti-tuberculosis treatment on day 3, prior to the results of fine needle aspiration, because we strongly suspected tuberculosis...

Step 7: What was the evolution and the final outcome?

The patient quickly regained appetite and started to walk and the ganglions began to shrink with a good recovery and nodes still receding at 3 months.

**2. With these seven steps, you have the “core” of your case report.** Now you need to write your Background, Discussion, and Conclusion Sections.

Step 8: What is the main message of your case report on the basis of this “core”?

In face of symptoms such as those described, health care providers should think of initiating anti-tuberculosis treatment rapidly even before the results of fine-needle aspiration because of improved patient outcome but also in the interest of limiting spread of disease within vulnerable populations.

Step 9: Do your literature search

Now you want to think about what precedes your “core”, the Background/Introduction Section, and what follows your “core”, the Discussion and Conclusion Sections. This will entail conducting a literature search, but first you need to formulate your questions. Make sure to keep track of your references for citations of other people’s work and remember you can usually cite a maximum of 10 references only for a case report.

Background

How prevalent is tuberculosis in children?

What kind of health structure was involved (what kind of resources were available)?

[...]

Discussion

How was the child's presentation atypical?

Is there an association between severe malnutrition and TB?

[...]

Step 10: On the basis of all the above, what is our conclusion?

Conclusion

What was particular/interest about our case?

Why is it important?

[...]

By following these ten steps, you now have a complete set of notes and references for your case report. What you need to do next is put it all together and format it as a case report. This time you will arrange your manuscript differently.

## **Part Two: Writing your second draft**

Step 11: Start by writing the entire text and listing the references.

Your manuscript should generally not exceed 1200 words. Leave the title, abstract, key words and formatting for last (Steps 12-15)

### **Background<sup>1</sup>**

Tuberculosis is a common illness for vulnerable populations in resource-limited settings with latest figures showing an annual incidence of 10 million including 1 million children [1]. Lymph nodes in tuberculosis correspond to the most frequent extra-pulmonary form of tuberculosis in children but are seldom generalized and large. Tuberculosis associated with lymphadenopathy has rarely been reported, especially in children. Here we describe an atypical case of tuberculosis manifesting with generalized lymphadenopathy in a young child in a rural district pediatric hospital run by Médecins Sans Frontières (MSF) in Sub Saharan Africa, covering a rural area of over 1 million people among whom children under five account for over 20%.

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<sup>1</sup> The following article was published in Oxford Medical Case Reports. Bottineau et al. A misleading appearance of a common diseases: tuberculosis with generalized lymphadenopathy – a Case Report.”  
<https://academic.oup.com/omcr/article/2019/9/omz090/5575783>

## Clinical Findings and Diagnostic Assessment

A two-year-old girl from a rural area presented at our hospital with severe acute malnutrition (SAM) and a history of 3 weeks of fever. The mother reported that painless nodes had appeared in the last few days, starting in the neck and then reaching the armpits, elbows, and inguinal folds and quickly magnifying.

On examination, the child was found to have SAM of the Kwashiorkor Marasmus type (MUAC: 110 mm). MUAC is used for the assessment of nutritional status. It is a good predictor of mortality (better than any other anthropometric indicator) and in many studies. It is recommended for use with children between six and fifty-nine months of age and for assessing acute energy deficiency.

The child was responsive but refused to walk and had overall limited mobility especially in the neck owing to the volume of the lymph nodes. Fever and cough were absent. Multiple large nodes (>1.5 cm in diameter) were present in all areas. They were painless, elastic, slightly movable relative to each other or in clusters, non-compressive and no infectious focus was detectable. (See Fig. 1).

The chest X-ray was of poor quality but showed mediastinal enlargement and possible opacity rounded to the left. The abdominal X-ray was without particularities.

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A fine needle aspiration of a ganglion was performed and analyzed in the capital: the results were as below:

Macroscopic exam: Neck and axillar nodes.

Microscopic exam: Cyto puncture of the lesion not very productive.

A highly polymorphic, essentially lymphoplasmocytic inflammatory cell population is observed, accompanied by numerous clusters of epithelial cells and a few giant cells.

No identifiable malignant cells on this spread.

Unfortunately, a Ziehl-Neelsen stain, staining method that makes possible to detect Acid-Alcoholic Resistant Bacilli or BAAR negative bacilli including *Mycobacterium tuberculosis* and other mycobacteria, was not performed due to a shortage of certain products needed for its realization, a problem that is quite common in low-resource countries.

Conclusion: ganglionic puncture in favor of granulomatous lymphadenitis, most probably a tuberculosis.

### **Therapeutic intervention**

Anti-tuberculosis treatment was initiated on day 3, following consultations with pediatricians *via* Telemedicine based on the national protocol, before the results of the fine needle aspiration were available. This is because we strongly suspected extra-pulmonary tuberculosis, based on the clinical presentation and despite major differential diagnosis of malign lymphoma. Also, tuberculosis is easily treatable in this context compared to lymphoma and we feared growth of nodes potentially leading to vital distress.

Within a few days the child recovered a good appetite with disappearance of SAM and returned to a favorable condition without fever. She also regained her ability to walk. The lymph nodes started to decrease in size only 2–3 weeks after initiation of treatment. (See Figs. 2, 3 and 6).

Because the mother was already involved in the regular follow-up of another child affected by sickle cell anemia in an MSF program including parental therapeutic education, she was confident that she could look after her child. This made early discharge possible quite with a good parental satisfaction, adhesion to treatment and retention in health care (follow-up visits were respected).

After 3 months, lymph nodes be still decreasing but visible. (See Figs. 4 and 5).

### **Discussion**

Prompt correct differential diagnosis and adequate treatment are a key issue in TB management. It should be initiated as soon as possible when the size of lymph nodes can lead to compression and thus vital distress. Moreover, the initiation of treatment has diagnostic value since patients generally respond quickly to treatment. The lack of improvement makes diagnosis unlikely and other causes must be explored even if the possibility of multidrug-resistant tuberculosis must be kept in mind. For our case, we acted on a causal diagnosis *before* confirmation of the diagnosis—a decision which we recognize could be questioned and considered a weakness in terms of public health. We justified our decision in view of the long time lapse necessary for confirmation of diagnosis when this is feasible in such a context (which is not always the case), the potential risk of compression of the airways with vital distress and general poor condition requiring rapid care.

TB lymphadenitis is extremely common in children [2]. Nevertheless, in contrast to our observation, lymph nodes are usually supraclavicular or cervical, swollen, painless, and firm [2]. The involvement of neck nodes is secondary to disease spread from a pulmonary focus [3].

In face of enlarged lymph nodes and disregarding their characteristics, clinicians should always suspect TB [4] and not just lymphoma.

The other causes of lymphadenopathy that should be considered in children are reactive hyperplasia, lymphoma, sarcoidosis, secondary carcinoma, generalized lymphadenopathy of HIV, Kaposi sarcoma, lymphadenitis caused by Mycobacteria other than tuberculosis because their treatment protocols vary, fungi, toxoplasmosis, syphilis, Epstein-Barr virus, cytomegalovirus and in some contexts bubonic plague. In general, multiplicity, matting and caseation are features of tuberculous lymphadenitis, but these are neither specific nor sensitive. In lymphoma, the nodes are rubbery in consistency and are seldomly matted. In lymphadenopathy due to secondary carcinoma, the nodes are usually hard and fixed to the underlying structures or the overlying skin [5].

Systemic steroids have been shown to reduce inflammation during the early phase of therapy for lymph node tuberculosis and may be considered if a node is compressing a vital structure i.e. bronchus or in diseases involving a cosmetically sensitive area. Prednisolone, 40 mg per day for 6 weeks followed by gradual tapering over the next 4 weeks, with appropriate antituberculosis therapy is adequate. However, the safety and utility of this approach remains largely unproven except in intrathoracic disease where it was found to relieve the pressure on the compressed bronchus [5].

Because of the immunocompromising, there is a well-known strong association between SAM and TB [6]. TB is a contributor to mortality among hospitalized children with SAM [4, 7]. In a recent retrospective study in Zambia, TB was more commonly diagnosed among children with Kwashiorkor (47%) compared to Marasmus-Kwashiorkor (24%) and marasmus (29%) [7]. The majority had pulmonary TB, while TB meningitis, lymphadenitis (as our case) and disseminated TB were the most common forms of extra-pulmonary TB. Only 25% of patients were bacteriologically confirmed. Nevertheless, only a low percentage (2–5%) of SAM children are diagnosed with TB suggesting under-detection [7] and calling for improved case detection to establish the true burden of TB disease.

HIV infection has significantly impacted the epidemiology and severity of childhood TB since HIV infected children have an increased risk of developing and disseminating TB, specifically if the child

presents initially with SAM and/or neurologic symptoms. HIV counselling and testing should systematically be part of the initial screening [2].

### Conclusion

TB of the head and neck region though not very redundant, remains an imperative clinical subsistence, which should be kept in mind especially in developing countries. Sometimes, as in our case, swift identification of atypical TB can be challenging. Clinician awareness of atypical presentations of TB can make it uncomplicated. Early diagnosis of TB is beneficial to the patient by quickly providing treatment, but also by averting disease spread [4] specifically in SAM and/or HIV pediatric patients.

### References

[1] WHO. Global Tuberculosis Report 2018.  
[https://www.who.int/tb/publications/global\\_report/tb18\\_ExecSum\\_web\\_4Oct18.pdf?ua=1](https://www.who.int/tb/publications/global_report/tb18_ExecSum_web_4Oct18.pdf?ua=1)

[2] Esposito S [...]

[etc]

### Step 12: Choose a title.

The title should express the focus and sometimes the context of your case. Think about your main message and try to align your title with it. Do not try to make your title sound “original”; instead make it as clear and comprehensive as possible. Always add “Case Report” within the title or sub-title so that a reader searching PubMed knows what kind of study you have conducted.

A misleading appearance of a common disease: tuberculosis with generalized lymphadenopathy—a case report

### Step 13: Write your abstract of maximum 350 words.

Writing a structured abstract helps, even if you remove the headings at the end of the exercise. Remember, most people won't read more than your abstract so make it interesting and informative! And remember that you want the Conclusion to summarize your main “take-home lesson”.

Introduction: Tuberculosis is a common illness for vulnerable populations in resource-limited settings. Lymph nodes in tuberculosis represent the most frequent extrapulmonary form of tuberculosis in children, but lymph nodes are rarely generalized and large. We report an atypical pediatric case of tuberculosis with lymphadenopathy. Patient concerns and findings: A two-year-old child with severe acute malnutrition presented with painless, generalized, and excessively large nodes which were not compressive and were without fistula. Main diagnoses, interventions, outcomes: Fine needle aspiration was performed and led to the detection of lymph node

granulomatous lymphadenitis suggestive of tuberculosis. The child was immediately initiated on antituberculosis therapy with a very successful outcome. Conclusion: Clinicians should be aware of atypical manifestations such as the one we describe in the interest of swift diagnosis and initiation of treatment.

Step 14: Choose up to 6 key words.

Your key words should reflect the content of your report but should also include subjects that are not included in your title, such as “humanitarian and resource-limited setting”. It is good practice (but not obligatory) to check MeSH (medical subheadings used by the National Library of Medicine) terms and use them if they are appropriate: remember that the key words you use will help interested readers find your report.

Infectious diseases and tropical medicine; Paediatrics; Respiratory disorders; Emergency medicine

Step 15: Check the “Instructions to authors” for the journal you are submitting to and follow their specific formatting conditions.

Usually the order in which your report is presented will look something like this:

### Template for a Case Report

**Title:** *Choose an informative title and, if need be, sub-title; always include “Case Report” so that the reader knows immediately what study type you have chosen.*

**Authors:** *Check the Instructions to Authors of the journal you are submitting to for formatting authors’ names, affiliations, addresses and so on. Never include an author without having his/her explicit consent.*

**Corresponding author:** *The corresponding author is the author who submits the report, takes responsibility for it and corresponds with the journal editors and peer reviewers.*

**Abstract:** *Write a structured abstract (as above). You can use the following questions to guide you. What is the main subject of your report? Who is your target audience and what do they need to know? Who is the patient? What are his/her main clinical manifestations? Briefly describe case management and outcome. What has this case taught you? What is the take-home message for the reader?*

**Key Words:** *Generally, 3 to 6; choose your key words carefully to reflect your paper’s content and to make your paper easy to find by interested future readers.*

**Background/Introduction:** *what is special about the disease entity or illness you are describing (e.g. “... disease x is very rare in the southern hemisphere and occurs mostly in the elderly... here we describe a case of x occurring in sub-Saharan African in a young person...”)? What was challenging about the*

case: diagnosis, management, complications or treatment side effects...? Do not go into detail in the introduction but give the reader a clear idea of which aspects of case management you will be describing.

**Patient information:** Remember that patient information is what can lead to patient identification (which of course is to be avoided, even with informed consent from the patient). Therefore, include patient information only if it is directly relevant to disease epidemiology and/or case management. Wherever possible, take the additional precaution of de-identifying the information when this makes sense (e.g. if describing an STI, instead of specifying: "a 26-year-old woman mother of three children living in the Malawian town of Karonga", say: "a young mother living in a resource-limited setting in Malawi").

**Clinical Findings & Diagnostic assessment:** a) relevant physical examination and other clinical findings; b) diagnosis methods & challenges c) diagnostic reasoning including differential diagnosis d) prognostic characteristics when applicable.

**Therapeutic intervention & Outcome:** a) types of intervention b) administration of intervention c) changes in intervention with explanations d) adverse or unanticipated events.

**Discussion:** a) strengths and limitations of the approach to this case b) discussion of the relevant medical literature (references) c) rationale for your conclusions

**Conclusion:** a) primary "take away" lesson from this Case Report, especially as concerns humanitarian and resource-limited settings b) any suggestions for further research, public health policy, clinical protocols...

**Patient perspective:** When available/relevant, it can be valuable to add the patient's perspective. This can include, when and where appropriate: subjective experience of symptoms (pain and discomfort), previous treatments (traditional or other), self-medication or home remedies prior to presenting at MSF, ideas on disease causality, adherence and patient education issues, day-to-day coping... etc.

**Timeline:** You may wish to include a timeline or table detailing case management. This can make your report more understandable for the reader and also cut down your word count by including details such as drug posology and specific dates in the timeline / chart. This in turn will give you the possibility to make your Discussion longer and the Discussion can be the most interesting part of your Case Report.

**Informed Consent/Ethics approval:** Here you should state that you have obtained written informed consent, witnessed oral consent, or ethical approval for absence of informed consent (state why).

**Conflict of interest statement:** It is routine in medical journals to state any potential conflict of interest you might have. For example, if your report is on snakebites and you are working for a pharmaceutical company which produces anti-venoms.

**Acknowledgements:** Here you should acknowledge – with their consent – any persons who provided assistance to you (review, editing,...) who does not qualify as a co-author.

**Guarantor:** It is becoming increasingly common for medical journals to ask that one of the authors be named as the "guarantor", as in the person who takes responsibility for the integrity and accuracy of the report.

**References:** Check the “Instructions to authors” of the journal you are submitting to see how many references are allowed for a Case Report (usually up to 10) and how to format them.

**Figures & Tables:** Here you should list the Figures and Tables and their legends you are including in your report. Check also the “Instructions to authors” of the journal you are submitting to for formatting instructions.

## GUIDELINE AND TEMPLATE FOR WRITING A CASE SERIES

Most of what is included in the Guideline and Template for Writing a Case Report applies to a Case Series as well. For this reason, we are providing only the Template for a Case Series. Follow the same steps as for a Case Report.

### Template for writing a Case Series

**Title:** Choose an informative title and, if need be, sub-title; always include “Case Series” so that the reader knows immediately what study type you have chosen.

**Authors:** Check the Instructions to Authors of the journal you are submitting to for formatting authors’ names, affiliations, addresses and so on. Never include an author without having his/her explicit consent.

**Corresponding author:** The corresponding author is the author who submits the report and corresponds with the journal editors.

**Abstract:** Write a structured abstract (as above). You can use the following questions to guide you. What is the main subject of your report? Who is your target audience and what do they need to know? Who are the patients? What are their main clinical manifestations? Briefly describe case management and outcome. What have these cases taught you? What is the take-home message for the reader?

**Key Words:** Generally, 3 to 6; choose your key words carefully to reflect your paper’s content and to make your paper easy to find by interested future readers.

**Background/Introduction:** a) what is the unifying theme among cases? [disease, exposure, treatment outcome, etc.] (e.g. Eight snakebite cases occurring in children and adults in South Sudan in June 2018) b) describe methods (only if applicable: e.g. a specific surgical intervention conducted on all patients) c) mention anything unique about this series, especially as it relates to humanitarian and low resource contexts (e.g. lack of appropriate anti-venoms).

**Patient information:** a) de-identified demographic and other patient information, potential risk factors b) main concerns with relation to the unifying theme c) medical, family, psychosocial history including genetic information d) relevant past interventions and their outcomes. (Not all of these will be applicable. In the snakebite example, we might want to say that all the children were sleeping on the ground – as versus being in a high bed where snakes could not reach them. You might also want to mention any differences in clinical outcome following snakebite between children and adults.)

**Methods** [if applicable, e.g. retrospective patient-file analysis: a) describe setting & time period b) describe data collection and analysis c) state any criteria or categories used for case inclusion.

**Clinical Findings & Diagnostic assessment:** a) relevant clinical and other findings b) diagnosis methods c) diagnostic challenges d) diagnosing reasoning including differential diagnosis e) prognostic characteristics when applicable.

**Therapeutic intervention & Outcome:** a) types of intervention b) administration of intervention c) changes in intervention with explanations d) adverse or unanticipated events

**Discussion:** a) strengths and limitations in the approach to this Case Series b) discussion of the relevant medical literature (references) c) rationale for your conclusions d) primary “take away” lesson from this Case Series.

**Conclusion:** a) primary “take away” lesson from this Case Series, especially as concerns humanitarian and resource-limited settings b) any suggestions for further research, public health policy, clinical protocols.

**Patient perspective:** When available/relevant, it can be valuable to add the patient’s perspective. This can include, when and where appropriate: subjective experience of symptoms (pain and discomfort), previous treatments (traditional or other), self-medication or home remedies prior to presenting at MSF, ideas on disease causality, adherence and patient education issues, day-to-day coping... etc.

**Timeline:** You may wish to include a timeline or table detailing case management. This can make your report more understandable for the reader and also cut down your word count by including details such as drug posology and specific dates in the timeline / chart. This in turn will give you the possibility to make your Discussion longer and the Discussion can be the most interesting part of your Case Series.

**Informed Consent/Ethics approval:** Here you should state if you have written informed consent, witnessed oral consent or ethical approval for absence of informed consent (state why). Often, since Case Series are presented as aggregate data and without patient identifiers, informed consent can be waived.

**Conflict of interest statement:** It is routine in medical journals to state any potential conflict of interest you might have. For example, if your Case Series is on snakebites and you are working for a pharmaceutical company which produces anti-venoms.

**Acknowledgements:** Here you should acknowledge – with their consent – any persons who provided assistance to you (review, editing...) who does not qualify as a co-author.

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