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Tratamiento de tuberculosis MDR / XDR en Perú. ¿Vamos por buen camino?

Treatment of MDR / XDR tuberculosis in Peru. Are We on the good way?

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Dear Editor

Currently, there are no official statistics about the situation of multidrug-resistant tuberculosis (MDR) or widely drug-resistant tuberculosis (XDR) in Peru. All the information on this disease is only available in power point presentations by representatives of the National Program for Tuberculosis Control (PNCT) held at scientific meetings or congresses (1) or information from the World Health Organization (WHO).

The success rate of treatment for MDR TB in Peru is only of the 54.3%. The experts have stated that if a scheme only cures in 50-60% of cases, the disease will never be controlled. Furthermore, the rate of abandonment of treatment for MDR TB is as high as the 33% in Peru; that is, 1 in 3 patients interrupt the treatment. On the other hand, the treatment of MDR TB in Peru has not changed since 2006 and has not been adjusted to the WHO recommendations for treating resistant TB that have been updated between 2018 and 2019. The Treatment scheme for MDR TB in Peru consists of: a single group A drug: levofloxacin; A single group B drug: cycloserine; and 3 group C drugs: ethambutol, pyrazinamide and ethionamide, as well as an injectable that should no longer be used according to the 2018 WHO recommendations: kanamycin. This treatment scheme does not comply with any of the current recommendations of the WHO 2018-2019 for the treatment of tuberculosis: the success rate is very low, the dropout rate extremely high, the drugs are toxic and very weak (2- 6).

Peru had the highest number of MDR TB cases: 1,679 cases and XDR: 98 cases (Figure 1) of the American continent in 2018 (7). Those responsible for the PNCT have developed a way of treating XDR TB patients that does not exist in any other country, using differentiated "nucleus" of medicines. This "nucleus" can be: 1) an "oral nucleus" consisting of: linezolid (a group A drug, bedaquiline, or delamanid (although the bedaquiline is a drug that belongs to group A and the delamanid is a drug that belongs to group C, they are considered as similar or comparable) and clofazimine (a group B drug). This is incomplete and is administered to stable patients and achieving a success rate of 78%, which could be considered acceptable but could be further improved. 2) An "intravenous nucleus" consisting of: imipenem (a group C drug that is not currently recommended), linezolid (a group A drug) and thioridazine (it has no group, but could be considered a group B drug along with clofazimine). This second "intravenous nucleus" is weaker and achieves only a 68% success rate (Figure 2), and it is also administered to patients with more severe lung disease or comorbidities, presenting higher mortality than the "oral nucleus" (6).

How are patients with MDR / RR / pre-XDR / XDR TB managed in other countries that base their recommendations on scientific evidence (Figure 2)?: they seek to choose the 3 most powerful group A drugs and the two Group B drugs to include at least 4 effective drugs in the treatment scheme, avoiding the use of group C drugs (the weakest and potentially most toxic) (5,8). Why is this not possible in Peru if the tuberculosis control program has an annual budget of $ 131 million that can cover the cost of the best drugs, including complementary tests?

The "future" of the MDR / XDR treatment: In several countries and according to WHO recommendations, the current treatment regimen for XDR TB can be reduced to only 3 drugs approved in June 2019: pretomanid, linezolid and bedaquiline, with a rate of 90% cure and does not involve injectables. As Peru is the country with the most annual MDR / XDR TB cases of the American

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continent, it should focus its efforts on the best treatment scheme: the one based on international evidence and recommendations, the one with a high success rate with the lowest number of deaths and patients to interrupt the treatment, which as we have mentioned is not one of the schemes that those affected by TB in Peru currently receive (9-11).

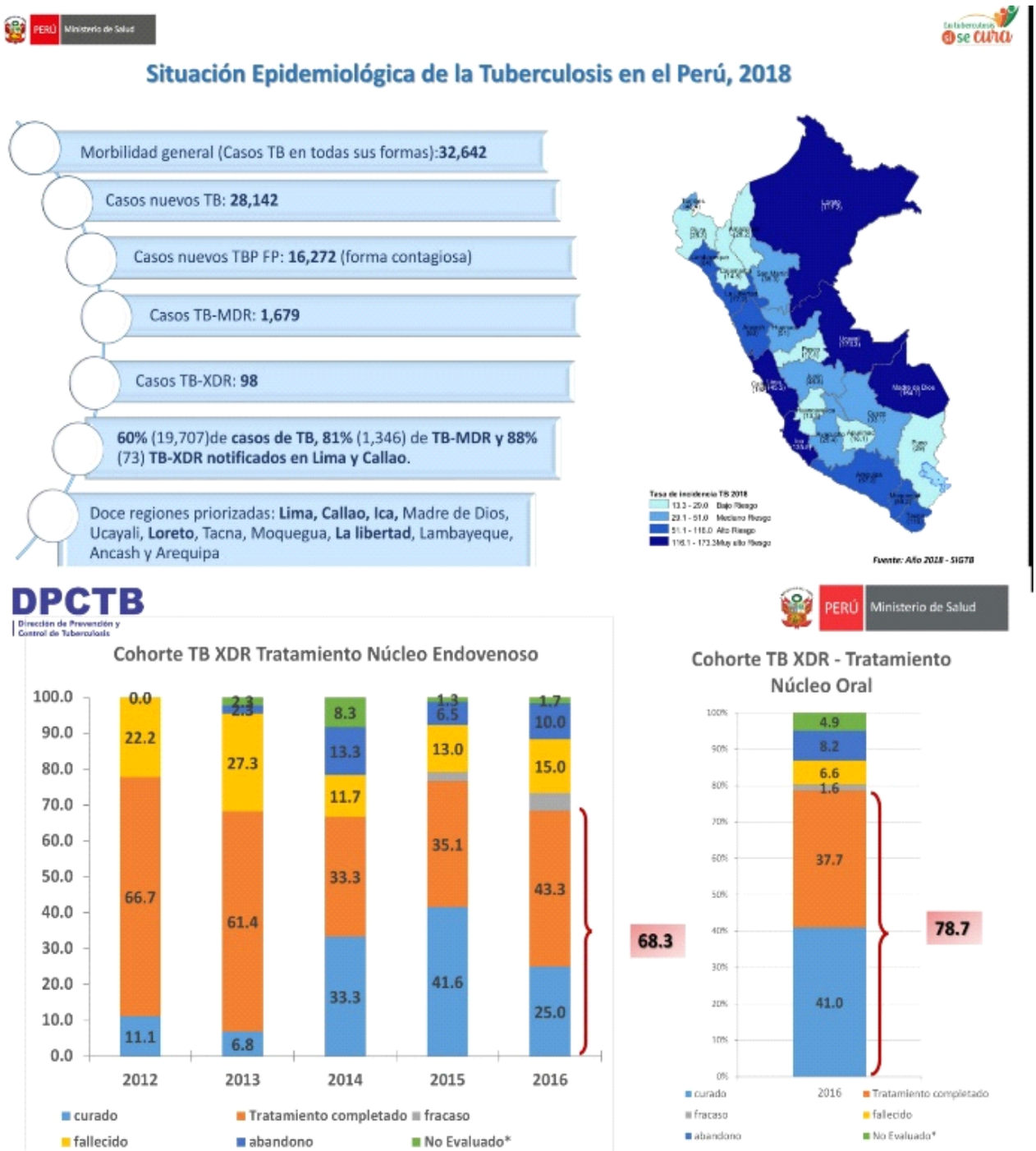
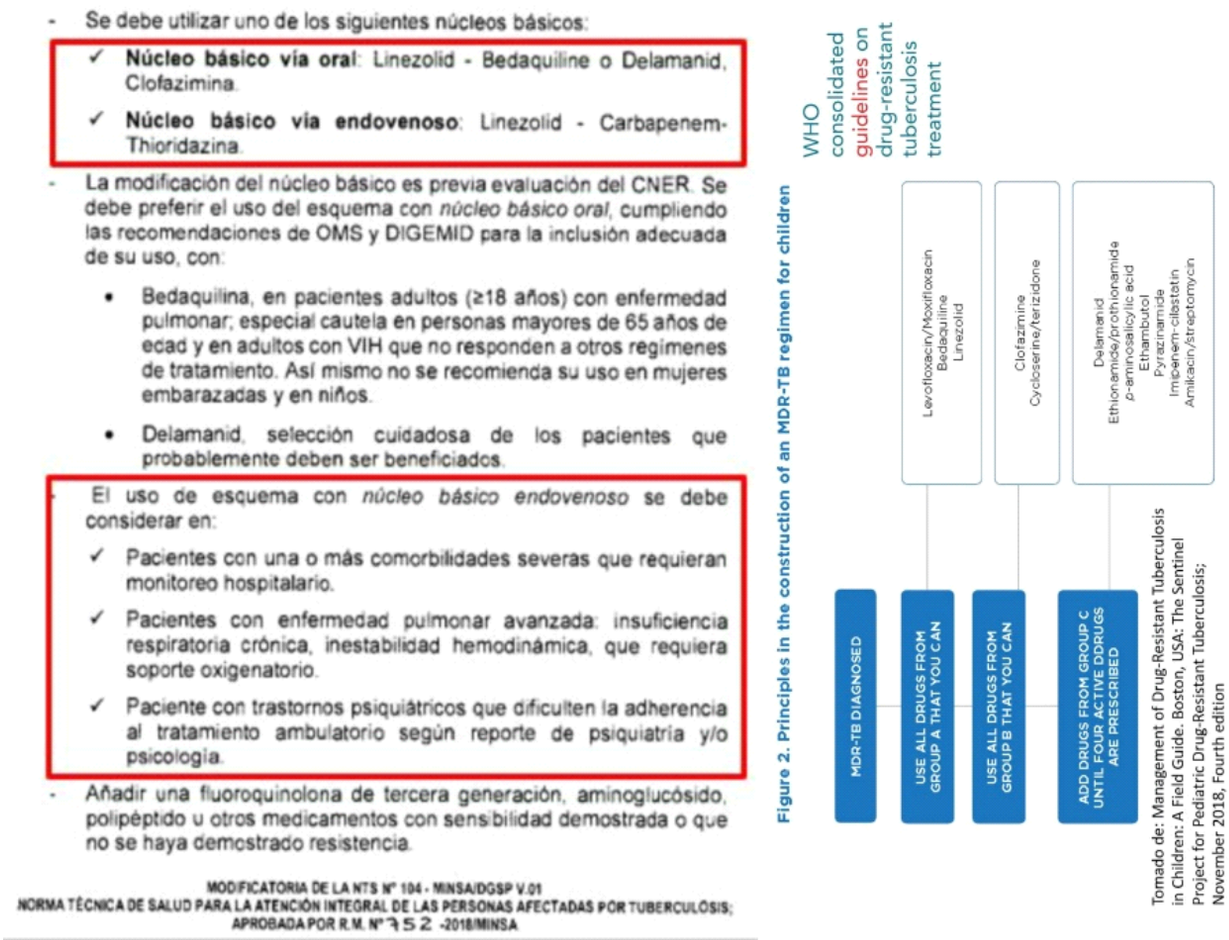


Figure 1. Epidemiological Situation of the Tuberculosis in Peru during the 2018 year and Results of the XDR TB Treatment Cohort according to the "nucleus" used



- Se debe utilizar uno de los siguientes núcleos básicos:
  - ✓ **Núcleo básico vía oral**: Linezolid - Bedaquiline o Delamanid, Clofazimina.
  - ✓ **Núcleo básico vía endovenoso**: Linezolid - Carbapenem-Thioridazina.
- La modificación del núcleo básico es previa evaluación del CNER. Se debe preferir el uso del esquema con *núcleo básico oral*, cumpliendo las recomendaciones de OMS y DIGEMID para la inclusión adecuada de su uso, con:
  - Bedaquilina, en pacientes adultos (≥18 años) con enfermedad pulmonar; especial cautela en personas mayores de 65 años de edad y en adultos con VIH que no responden a otros regímenes de tratamiento. Así mismo no se recomienda su uso en mujeres embarazadas y en niños.
  - Delamanid, selección cuidadosa de los pacientes que probablemente deben ser beneficiados.
- El uso de esquema con *núcleo básico endovenoso* se debe considerar en:
  - ✓ Pacientes con una o más comorbilidades severas que requieran monitoreo hospitalario.
  - ✓ Pacientes con enfermedad pulmonar avanzada: insuficiencia respiratoria crónica, inestabilidad hemodinámica, que requiera soporte oxigenatorio.
  - ✓ Paciente con trastornos psiquiátricos que dificulten la adherencia al tratamiento ambulatorio según reporte de psiquiatría y/o psicología.
- Añadir una fluoroquinolona de tercera generación, aminoglucósido, polipéptido u otros medicamentos con sensibilidad demostrada o que no se haya demostrado resistencia.

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Figure 2. "Nucleus" for the treatment of the XDR TB according to the Peruvian Technical Health Standard versus WHO 2018 recommendations

References

1. MINSA. Dirección de Prevención y Control de Tuberculosis DPCTB. [Internet] 2020 [Acceso: 02/02/2020] Disponible en: http://www.tuberculosis.minsa.gob.pe/portaldpctb/Index.aspx#close
2. MINSA. Dirección de Prevención y Control de Tuberculosis DPCTB. [Internet] [Acceso: 02/02/2020] Disponible en: http://www.tuberculosis.minsa.gob.pe/portaldpctb/recursos/20180605122521.pdf
3. OPS. Informes técnicos: Tuberculosis. [Internet] 2017 [Acceso: 02/02/2020] Disponible en: https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=informes-tecnicos-5916&alias=44310-reunion-regional-jefes-programas-nacionales-control-tuberculosis-arequipa-peru-2016-310&Itemid=270&lang=en
4. Situación y desafíos en el control de la TB en el Perú. Página web. [Internet] 2017 [Acceso: 02/02/2020] Disponible en: http://www.actbistas.org/situacion-y-desafios-en-el-control-de-la-tb-en-el-peru/
5. Lange C, Dheda K, Chesov D, Mandalakas AM, Udwadia Z, Horsburgh CR. Management of drug-resistant tuberculosis. Lancet. 2019; 394: 953–66
6. MINSA. Modificatoria de la NTS N° 104 - MINSA/DGSP V.01. Norma Técnica de Salud para la Atención Integral de las Personas Afectadas por Tuberculosis. Aprobado por RM N° 752-2018/MINSA. [Internet] 2017 [Acceso: 02/02/2020] Disponible en: http://www.tuberculosis.minsa.gob.pe/portaldpctb/recursos/20190404114640.PDF
7. OMS. Global tuberculosis report 2019. Geneva. [Internet] 2019 [Acceso: 02/02/2020] Disponible en: https://www.who.int/tb/publications/global_report/en/
8. OPS. Directrices unificadas de la OMS sobre el tratamiento de la tuberculosis multirresistente. Washington, D.C.: Organización Panamericana de la Salud; 2019. [Internet] 2019 [Acceso: 02/02/2020] Disponible en: https://iris.paho.org/handle/10665.2/52059?locale-attribute=es

9. Migliori GB, Loddenkemper R, Blasi F. Raviglione MC. 125 years after Robert Koch's discovery of the tuberclebacillus: the new XDR-TB threat. Is "science" enoughtotackletheepidemic? EurRespir J. 2007; 29: 423–427.
10. WHO. Rapid Communication: Key changes to the treatment of drug-resistant tuberculosis. Geneva. 2019 [Internet] 2019 [Acceso: 02/02/2020] Disponible en: https://www.who.int/tb/publications/2019/rapid_communications_MDR/en/
11. WHO WHO consolidated guidelines on drug-resistant tuberculosis treatment Geneva. 2019. Internet] 2019 [Acceso: 02/02/2020] Disponible en: https://www.ncbi.nlm.nih.gov/books/NBK539513/