





Annals of Medicine and Surgery

Editorial Board

Editor-in-Chief

Riaz Agha, London, England, UK

Assistant Managing and Executive Editor

Maliha Agha, London, England, UK

Assistant Editors

Adam Frampton, London, England, UK
Jorg Kleef, Munich, Germany
Deepthi Mani, Washington, USA
David Rosin, Bridgetown, Barbados
Peter Schemmer, Heidelberg, Germany

Social Media Editor

Riaz Agha, London, UK

Managing Editor

Alexander James Fowler, London, England, UK

Statistical Editor

Lai-Chu See, Taoyuan, Taiwan

Associate Staff Editors

Sergio Acuna, Toronto, Canada
Guido Alsfasser, Rostock, Germany
Fernando Angarita, Toronto, Canada
James Clark, Plymouth, England, UK
Terry Evans, London, England, UK
Shivani Garg, Wisconsin, USA
Todd Golden, Arizona, USA
Fermin Guerrero Del Angel, Madero, Mexico
Eleni Ntouvali, Athens, Greece

Assistant Commissioning Editors

Ahmed Al-Jabir, London, UK
Zaid Alsafi, London, UK
Thomas Franchi, Sheffield, UK
Christos Iosifides, London, UK
Ahmed Kerwan, London, UK

Mehdi Khan, London, UK
Ginimol Mathew, London, UK
Maria Nicola, London, UK
Niamh O'Neill, London, UK
Catrin Sohrabi, London, UK

Junior Staff Editors

Sumita Agrawal, Jodhpur, India
Bakir Al-Dulaimy, London, UK
Mohammed Anwar, London, UK
Martinique Vella Baldacchino, Glasgow, UK
Maria Borrelli, London, UK
Kerry Anne Burke, Manchester, England, UK
Adam Cristaudo, Cairns, Australia
Buket Gundogan, London, UK
Adam Gwozdz, London, England, UK

Mike Hu, California, USA
Tobin Joseph, London, UK
Kiron Koshy, London, UK
Seon-Young Lee, Southampton, England, UK
Chris Limb, London, England, UK
Yasser Al Omran, London, England, UK
Karishma Shah, Oxford, UK
Rachel Thavayogan, London, UK

Executive Committee

Sir Graeme Catto, Aberdeen, Scotland, UK
Sir Barry Jackson, London, England, UK

David Rosin, Bridgetown, Barbados

Editorial Board

Xiao-Ping Chen, Wuhan, China
Marc Cohen, Victoria, Australia
David Green, London, England, UK
Saeed Sadiq Hamid, Karachi, Pakistan
Peter Hutchinson, Cambridge, England, UK
Peter Littlejohns, London, England, UK
Ashok Mahapatra, New Delhi, India
Judy McKimm, Swansea, Wales, UK
Dattatraya Muzumdar, Mumbai, India

Ashish Nabar, Mumbai, India
Fabio Nicoli, London, UK
John Norcini, Philadelphia, PA, USA
Christoph Paasch, Berlin, Germany
Daniel Sokol, London, England, UK
Jamsheer Talati, Karachi, Pakistan
John V. Thomas, Birmingham, AL, USA
Tim Gabe Williams, Kent, England, UK
Zhao-Fan Xia, Shanghai, China

Elsevier

Executive Publisher

Allan Ross, New York, USA

Administrative Editor

Joanne Frankland, Oxford, UK

Marketing Manager

Wendy Montalvo, New York, USA

Journal Manager

Tamsyn Hopkins, Exeter, UK

Senior Business Development

Executive (Reprints)

Emma Steel, London, UK

Advertising Sales Manager

Robert Bayliss, London, UK

Account Manager (Supplements)

Evelina Euren, The Netherlands

Annals of Medicine and Surgery

Open access

Submit your article

Menu



Search in this journal

Volume 81

September 2022

[< Previous vol/issue](#)

[Next vol/issue >](#)

Receive an update when the latest issues in this journal are published

[Sign in to set up alerts](#)

Case Reports

Case report *Open access*

Thyrotoxic periodic paralysis in a patient with Graves' disease: A case report

Sanjeev Kharel, Rajeev Ojha, Naresh Parajuli, Shiva Bhattarai, ... Ashish Shrestha

Article 104447

[Download PDF](#) Article preview

Case report *Open access*

Non-Hodgkin's lymphoma masquerading as splenic abscess: A case report

Qaisar Ali Khan, Arif Mumtaz, Abdul Baqi, Hoor Ul Ain, ... Zohaib Yousaf

Article 104449

FEEDBACK

[Submit your article](#)

Article 104442

[Download PDF](#) Article preview

Case report Open access

Helical plating for a re-nonunion and a peri-implant fracture after humeral intramedullary nailing: A report of two cases

Shuya Nohmi, Masahiro Suzuki, Yukiko Sakamoto

Article 104442

[Download PDF](#) Article preview

Case report Open access

Isolated abducens nerve palsy following AstraZeneca vaccine: A case report

Krity Basnet, Rupa Bhandari, Kushal Basnet, Ananta Aryal, Reshma Shrestha

Article 104434

[Download PDF](#) Article preview

Case report Open access

Carcinosarcoma of the colon with extensive and extraordinary metastases detected on F-FDG18PET/CT: A case report

Meryem Maskrout, Farah Boutaggount, Rania Mokfi, Ghizlane Ennibi, ... Ghizlane Rais

Article 104450

[Download PDF](#) Article preview

Case report Open access

A child diagnosed with midaortic syndrome and inherited thrombophilia after presenting with a stroke: A case report

Narmeen Giacaman, Salem M. Tos, Mohammad G. Ibdah, Mohamad K.M. Ismail, Nael Hussein Ellahham

Article 104455

[Download PDF](#) Article preview

Case report Open access

[Submit your article](#)Case report *Open access*

Obstruction of ventriculoperitoneal shunt by air bubble: A case report

Marouane Makhchoune, Michel Triffaux, Triantafyllos Bouras, Xavier Hamoir

Article 104351

[Download PDF](#) Article preview Case report *Open access*

Behcet's disease: Diagnosed as isolated recurrent oral aphthae; a case report

Maysoun Kudsi, Naram Khalayli, Amr Allahham

Article 104327

[Download PDF](#) Article preview Case report *Open access*

Recurrent retroperitoneal extra-renal angiomyolipoma: A case report and review of literature

Narjes Mohammadzadeh, Soroush Kohansal, Amir ghasemlouei

Article 104230

[Download PDF](#) Article preview Case report *Open access*

Le Fort III fractures: An approach to resuscitation and management

R. Pswarayi, C. Burns

Article 104513

[Download PDF](#) Article preview Case report *Open access*

Vulvar melanoma: A diagnostic challenge for young women - a case report

Mouhsine Omari, Adil Zaimi, Hanane Hadj Kacem, Said Afqir

Article 104473

[Download PDF](#) Article preview

[Submit your article](#)Case report *Open access*

Mesenteric inflammatory myofibroblastic tumor mimicking acute appendicitis: A case report

Saroj Kumar Yadav, Himal Bikram Bhattarai, Saurav Subedi, Anish Shrestha, ... Bidhan Bikram Shah
Article 104456

[Download PDF](#) [Article preview](#) Case report *Open access*

A rare combination of acute myeloid leukemia with Vit B12 deficiency: Case report

Mohammad Nour Kitaz, Rama Zazo, Muhammad Alsabbagh, Muhammad Diabi, ... Anwar Chammout
Article 104500

[Download PDF](#) [Article preview](#) Case report *Open access*

Clinical pathology aspect on diagnosis cholelithiasis in β -Thalassemia patient: A case report

Muhammad Bintang Maulana, Muhamad Robi'ul Fuadi
Article 104454

[Download PDF](#) [Article preview](#) Case report *Open access*

Surgical management of bilateral scapular winging in a previously healthy 10-year-old boy: A case report

Mohammad G. Ibdah, Salem M. Tos, Narmeen Giacaman, Omar M. Ass'ad, Husam A.T. Saa
Article 104443

[Download PDF](#) [Article preview](#) Case report *Open access*

Renal cell carcinoma with atypical metastases sites revealed by diabetes mellitus: A case report

Nejmeddine Jelleli, Ahmed Loghmari, Oussama Belkacem, Ghassen Tlili, ... Sihem Hmissa
Article 104480

[Download PDF](#) [Article preview](#)

[Submit your article](#)Case report *Open access*

Steroid induced psychosis in a child with nephrotic syndrome: A case report

Amrit Bhusal, Silan Bhandari, Sagar Pokhrel, Shankar Prasad Yadav

Article 104515

[Download PDF](#) [Article preview](#) Case report *Open access*

Management of drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome in a female Indonesian with pulmonary tuberculosis: A rare case report

Aghnia Permatasari, Gatot Soegiarto

Article 104512

[Download PDF](#) [Article preview](#) Case report *Open access*

A postoperative brain abscess due to Propionibacterium acnes in an immunocompetent adult with incidental discovery

Mehdi Borni, Souhir Abdelmouleh, Haifa Mechergui, Emna Elouni, Mohamed Zaher Boudawara

Article 104451

[Download PDF](#) [Article preview](#) Case report *Open access*

An extensive surgical resection in stage T4 small cell lung cancer with cardiac invasion: A case report and literature review

Shengchun Xiong, Keiyui Tang, Feifei Luo

Article 104448

[Download PDF](#) [Article preview](#) Case report *Open access*

Acute acalculous cholecystitis in a pediatric dengue hemorrhagic fever patient: A case report, lesson learned from limited resource setting

[Submit your article](#)

with CVA: A case report

Mohammad Khaled Alsultan, Zeina Nizar Bdeir, Ameer Obeid, Omar Alsamarrai, ... Qussai Hassan
Article 104441

[Download PDF](#) Article preview

Case report Open access

Cronkhite-Canada syndrome: A case report and review of the literature

Mingxiao Ma, Yaochan Huang, Zhimin Suo, Xuhui Ma
Article 104090

[Download PDF](#) Article preview

Case report Open access

Fetus papyraceous disguised as compound presentation: A case report

Neeta Timilsina, Suman Raj Tamrakar, Sabina Thapaliya, Chhavi Sachdeva, Ashish Tamang
Article 104481

[Download PDF](#) Article preview

Case report Open access

Mirizzi SD caused a rare case of Angiocholitis ictero-uremigene with shock septic: Case report and review of literature

Inass Arhoun El Haddad, Amine Elmouhib, Amal Moujahid, Houssam Bkiyar, ... Brahim Housni
Article 104435

[Download PDF](#) Article preview

Case report Open access

Facial hematoma of endodontic origin: A case report

Laila Benjelloun, Bouchra Taleb
Article 104484

[Download PDF](#) Article preview

[Submit your article](#)[Download PDF](#) [Article preview](#) Case report *Open access*

Bizarre wide complex tachycardia caused by sodium channel toxicity secondary to the management of status epilepticus: Case report

Ghazi T. AlMutairi

Article 104558

[Download PDF](#) [Article preview](#) Case report *Open access*

Two concomitant thrombotic microangiopathies in the background of systemic lupus erythematosus: A case report

Abdullah ALGhobaishi, Ahmed Hafez Mousa, Reham Salama Alshaltoni, Amani Sail Mohsen, ... Burhan Edrees

Article 104541

[Download PDF](#) [Article preview](#) Case report *Open access*

Prosthesis extrusion post total ossicular replacement ossiculoplasty (TORP) following isotretinoin use: A case report and literature review of peri-operative isotretinoin safety

Mohammed Alwabli, Nour Alotaibi, Saleh Alamry

Article 104469

[Download PDF](#) [Article preview](#) Case report *Open access*

Diagnosis and management of nitrobenzene poisoning in a low-resource setting: A case report

Rupesh Ramtel, Bibhuti Adhikari, Mijjal Shrestha, Niroj Hirachan, ... Suraj Shrestha

Article 104553

[Download PDF](#) [Article preview](#) Case report *Open access*

[Submit your article](#)Case report *Open access*

Diagnosing a rare thoracic intramedullary spinal dermoid cyst using DWI with ADC mapping: Case report

Jennifer P. Adams, Daniel Habenicht, Sohum K. Desai

Article 104440

[Download PDF](#) [Article preview](#) Case report *Open access*

Sinistroposition: A case report on incidental finding of left sided gall bladder on laparoscopic cholecystectomy

Srijan Malla, Samikshya Karki, Sujan Bohara, Binit Upadhaya Regmi, ... Sushil Bahadur Rawal

Article 104547

[Download PDF](#) [Article preview](#) Case report *Open access*

Lipofibromatous hamartoma of sciatic nerve: A case report

Sulochana Khadka, Prashant Adhikari, Pradeep Raj Regmi, Bibek Timilsina, ... Sandeep Bhandari

Article 104542

[Download PDF](#) [Article preview](#) Case report *Open access*

An Indonesian elderly with primary progressive aphasia and behavioral variant of frontotemporal dementia: A case report and review article

Aditya Kusumo Riswanto, Wendy Amelia Sihombing, Yudha Haryono

Article 104545

[Download PDF](#) [Article preview](#) Case report *Open access*

Cutaneous and lip squamous cell carcinomas in an albinism patient: A case report

[Submit your article](#)

Binit Upadhaya Regmi, Pawan Singh Bhat, Sujan Bohara, Srijan Malla, ... Sushil Bahadur Rawal
Article 104554

[Download PDF](#) Article preview

Case report Open access

Dropped gallstones mimicking intraabdominal implants or tumor: A report of two cases

Moatasem Hussein Al-janabi, Raghad Ghaleb Aslan, Alissar Mehzen Hasan, Marah Doarah, ... Mohammad Adib
Houreih
Article 104557

[Download PDF](#) Article preview

Case report Open access

MELAS syndrome with rare manifestations misdiagnosed as vasculitis in the absence of lactic
acidosis: A case report

Mohammad Alsultan, Deema Alshaar, Badie Alkhoul, Qussai Hassan
Article 104483

[Download PDF](#) Article preview

Correspondence, Commentaries and Perspectives

Correspondence Open access

Advancing surgical setting: A paradigm for healthcare workers during the monkeypox outbreak

Mohammad Mobin Teymouri Athar, Nastaran Sarvipour, Arman Shafiee
Article 104343

[Download PDF](#)

Correspondence Open access

The discrepancy of Crimean-Congo hemorrhagic fever-related tick vectors: An urgent need for
boosted surveillance

Masoud Keikha
Article 104412

Annals of Medicine and Surgery

Open access

Submit your article



[Download PDF](#) Article preview

Correspondence *Open access*

Behind the curtain: Workplace violence against nurses in Pakistan

Imaan Ghalib Khan, Soha Abbas, Summaiyya Waseem

Article 104378

[Download PDF](#)

Correspondence *Open access*

BA.5 and Monkeypox: A wakeup call for public health in Pakistan

Muhammad Bilal Islam, Shizra Jawed, Muhammad Hamayl Zeeshan

Article 104413

[Download PDF](#)

Correspondence *Open access*

Undergraduate students' involvement in research: Values, benefits, barriers and recommendations

Yusuff Adebayo Adebisi

Article 104384

[Download PDF](#) Article preview

Correspondence *Open access*

Diabetes and depression in Africa: Causality, relationship and clinical implications

Damilola Quazeem Olaoye, Olayemi Amusile, Sejoro Sehubo Tonuewa, Oluwapelumi Andrew Eseola, ... Omobolanle

Fausat Adekoya

Article 104422

[Download PDF](#) Article preview

Correspondence *Open access*

Epidemiological trends of *Aedes*-borne diseases in European countries during 2015–2020

Mohsen Karbalaei, Masoud Keikha

Annals of Medicine and Surgery

Open access

Submit your article



Ranjit Sah, Abdullah Reda, Basant Ismail Lashin, Aroop Mohanty, ... Alfonso J. Rodriguez-Morales

Article 104417

[Download PDF](#)

Correspondence *Open access*

The outbreak of Crimean-Congo hemorrhagic fever in Iraq - Challenges and way forward

Uzair Jafar, Muhammad Usman, Muhammad Ehsan, Aiman Naveed, ... Huzaifa Ahmad Cheema

Article 104382

[Download PDF](#)

Correspondence *Open access*

Maternal mortality in Pakistan: Challenges, efforts, and recommendations

Sean Kaiser Shaeen, Zoab Habib Tharwani, Wajeeha Bilal, Zarmina Islam, Mohammad Yasir Essar

Article 104380

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Chikungunya, zika, and dengue: Three neglected re-emerging Aedes-borne diseases

Mohsen Karbalaei, Masoud Keikha

Article 104415

[Download PDF](#)

Correspondence *Open access*

Clinical outcomes of fasting in patients with chronic heart failure with preserved ejection fraction: A prospective analysis

Shafiq Alam, Shoukat Hussain, Jawad Abbas, Muhammad Hassan Raza, ... Talal Almas

Article 104373

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Annals of Medicine and Surgery

Open access

Submit your article



Correspondence *Open access*

Neglecting antibiotic stewardship in prisons: A concern for antimicrobial resistance response

Yusuff Adebayo Adebisi, Nafisat Dasola Jimoh, Adeleke Adekunle Faid, Maleek Olanrewaju Olatunji, ... Don Eliseo Lucero-Prisno III
Article 104423

[Download PDF](#)

Correspondence *Open access*

Digital health and telemedicine in Pakistan: Improving maternal healthcare

Wajeeha Bilal, Khulud Qamar, Amna Siddiqui, Prince Kumar, Mohammad Yasir Essar
Article 104425

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Resurgence of the COVID-19 cases in Northern Afghanistan: Are we closer to fifth wave?

Abdullah Asady, Mohammad Faiq Sediqi, Haseebullah Shirzada, Sayed Samir Habibi, Qudratullah Qurishi
Article 104383

[Download PDF](#)

Correspondence *Open access*

Increasing challenges of malaria control in sub-Saharan Africa: Priorities for public health research and policymakers

Habeebullah Jayeola Oladipo, Yusuf Amuda Tajudeen, Iyiola Olatunji Oladunjoye, Sodiq Inaolaji Yusuff, ... Mona Said El-Sherbini
Article 104366

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Accessing Mental Health Services in Africa: Current state, efforts, challenges and recommendation

Aderinto Nicholas, Opanike Joshua, Oladipo Elizabeth
Article 104421

Annals of Medicine and Surgery

Open access

Submit your article



Article 101370

[Download PDF](#)

Correspondence *Open access*

Monkeypox during COVID-19 era in Africa: Current challenges and recommendations

Osaretin Christabel Okonji, Emeka Francis Okonji

Article 104381

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Challenges of addressing neglected tropical diseases amidst the COVID-19 pandemic in Africa: A case of Chagas Disease

Aishwarya Umesh Pradhan, Olivier Uwishema, Jack Wellington, Philemon Nisingizwe, ... Helen Onyeaka

Article 104414

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Prospects of malaria vaccination in Nigeria: Anticipated challenges and lessons from previous vaccination campaigns

Fortune Benjamin Effiong, Victor Chisom Makata, Emmanuel Ebuka Elebesunu, Esther Edet Bassey, ... Olivier Uwishema

Article 104385

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Robotics in surgery: Current trends

Hitesh Chopra, Atif Amin Baig, Simona Cavalu, Inderbir Singh, Talha Bin Emran

Article 104375

[Download PDF](#)

Correspondence *Open access*

[Submit your article](#)Correspondence *Open access*

Marburg virus outbreak in Ghana: An impending crisis

Jack Wellington, Ayça Nur, Aderinto Nicholas, Olivier Uwishema, ... Helen Onyeaka
Article 104377

[Download PDF](#) Article preview Correspondence *Open access*

Measles outbreak in sub-Saharan Africa amidst COVID-19: A rising concern, efforts, challenges, and future recommendations

Goodluck Nchasi, Innocent Kitandu Paul, Sospeter Berling Sospeter, Margareth Richard Mallya, ... Johnson Malunga
Article 104264

[Download PDF](#) Article preview Correspondence *Open access*

Cholera outbreak amidst an economic crisis and Covid-19 pandemic in Pakistan

Shehroze Tabassum, Aroma Naeem, Haris Iqbal, Dattatreya Mukherjee
Article 104374

[Download PDF](#)Correspondence *Open access*

Anthrax outbreak amidst the COVID-19 pandemic in Africa: Challenges and possible solutions

Rawa Badri, Olivier Uwishema, Jack Wellington, Vimala Devi Thambi, ... Helen Onyeaka
Article 104418

[Download PDF](#) Article preview Correspondence *Open access*

Delivering quality health care to people in low-income countries such as Pakistan; the clear link between AMR and UHC

Muhammad Muzzamil, Mohammad Mehedi Hasan, Maryam Nisa, Shaeroz Raza
Article 104490

Annals of Medicine and Surgery

Open access

Submit your article



[Download PDF](#)

Correspondence *Open access*

Suicide in Egypt: Should it Be prevented or disregarded?

Ramadan Abdelmoez Farahat, Nour Shaheen, Basel Abdelazeem

Article 104496

[Download PDF](#)

Correspondence *Open access*

Should we predict poor prognosis in autotransplantation of teeth with completed root formation?

Nuraldeen Maher Al-Khanati, Zafin Kara Beit

Article 104501

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

The future of robotic surgery for inflammatory bowel diseases

Fahad Gul, Syed Naqash Haider Kazmi, Khawar Abbas, Sajeel Saeed, Jawad Basit

Article 104476

[Download PDF](#)

Correspondence *Open access*

Suicide prevention in Bangladesh: Hope and hype

Ramadan Abdelmoez Farahat, A.K.M. Shafiu Kadir

Article 104510

[Download PDF](#)

Correspondence *Open access*

High-altitude illness: Menace in Himalayas of Nepal

Saral Lamichhane, Ishwor Ghimire, Amrit Pokhrel, Nava Raj Sharma, Surya Kiran Acharya

Article 104494

Annals of Medicine and Surgery

Open access

Submit your article



Christos Tsagkanis, Takup Gozderesi, Aude Dattassina, Ginevra Papi, Tatyana Krasnova

Article 104497

[Download PDF](#)

Correspondence *Open access*

Cholera outbreak amidst urban flooding in Karachi: An emergency condition

Shafaq Taseen, Sara Jawed, Aqleema Mohammad Ameen

Article 104365

[Download PDF](#)

Correspondence *Open access*

The emergence of tomato flu: Another pandemic in making?

Mrinmoy Kundu, Shankhaneel Ghosh, Soumyajit Das

Article 104523

[Download PDF](#)

Correspondence *Open access*

Mental health impacts of earthquake on Afghans amidst humanitarian crisis

Sayed Jawad Hussaini, Syed Hasham Ali, Zainab Syeda Rahmat, Zarmina Islam, Zoaib Habib Tharwani

Article 104521

[Download PDF](#) [Article preview](#)

Correspondence *Open access*

Climate change and its implications on health and the healthcare system: A perspective from Pakistan

Kainat Riaz, Mohammad Ahmad, Saqib Gul, Mohammed Hamza Bin Abdul Malik, Mohammad Ebad Ur Rehman

Article 104507

[Download PDF](#)

Correspondence *Open access*

Covid re-emergence: Do we have to mask up again?

Annals of Medicine and Surgery

Open access

Submit your article



Amna Siddiqui, Alishba Adnan

Article 104552

[Download PDF](#)

Correspondence *Open access*

Impact of water insecurity amidst endemic and pandemic in Pakistan: Two tales unsolved

Shahzaib Ahmad, Jaudat Zahra, Mohsan Ali, Sibgha Ali, ... Abdullahi Tunde Aborode

Article 104350

[Download PDF](#)

Correspondence *Open access*

Wastewater surveillance in Pakistan: Preventing future epidemics

Wajeeha Bilal Marfani, Laiba Imran Vohra, Abdul Moiz Sahito, Abdullah Nadeem

Article 104495

[Download PDF](#)

Correspondence *Open access*

The rise in HIV cases in Pakistan: Prospective implications and approaches

Wajeeha Bilal Marfani, Hira Anas Khan, Mahnoor Sadiq, Oumaima Outani

Article 104492

[Download PDF](#)

Correspondence *Open access*

Monkeypox: A potential pandemic at door of Asia

Ranjit Sah, Aroop Mohanty, Abdullah Reda, Basant Ismail Lashin, ... Alfonso J. Rodriguez-Morales

Article 104509

[Download PDF](#)

Correspondence *Open access*

[Submit your article](#)

Short Communications

Short communication *Open access*

Monkeypox and spillover effects: Stigmas, solutions and strategies

Hamna Raheel, Maham Raheel, Muhammad Ahmed Ali Fahim, Unaiza Naeem

Article 104346

[Download PDF](#)Short communication *Open access*

Radiofrequency ablation for management of thyroid nodules in quarantine zone of COVID-19 pandemic setting in Indonesia

Kristanto Yuli Yarso, Sumadi Lukman Anwar

Article 104132

[Download PDF](#) [Article preview](#) Short communication *Open access*

Rise of cholera in Iraq: A rising concern

Khulud Qamar, Umer Usman Malik, Juvairia Yousuf, Mohammad Yasir Essar, ... Jaffer Shah

Article 104355

[Download PDF](#) [Article preview](#) Short communication *Open access*

Monkeypox: Potentially another pandemic or a mere hoax?

Sajeel Saeed, Haroon Shabbir, Jawad Basit, Mohammad Ebad ur Rehman

Article 104364

[Download PDF](#) [Article preview](#) Short communication *Open access*

CABG versus PCI: What is the optimal strategy for multi-vessel disease?

Ayush Kumar, Priya, Govinda Khatri, Mohammad Mehedi Hasan

Article 104354

Annals of Medicine and Surgery

Open access

Submit your article



[Download PDF](#)

Short communication *Open access*

Seasonal hyperacute panuveitis: Call for greater attention to Nepal

Saral Lamichhane, Amrit Pokhrel, Prakriti Lamichhane

Article 104363

[Download PDF](#)

Short communication *Open access*

Medication non-compliance: A challenge in treating hypertension in Nepal

Saral Lamichhane, Amrit Pokhrel, Nava Raj Sharma

Article 104362

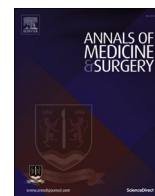
[Download PDF](#)

[< Previous vol/issue](#)

[Next vol/issue >](#)

ISSN: 2049-0801

Copyright © 2022 IJS Publishing Group Ltd. All rights reserved



Case Report

Management of drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome in a female Indonesian with pulmonary tuberculosis: A rare case report



Aghnia Permatasari, Gatot Soegiarto*

Department of Internal Medicine, Faculty of Medicine, Universitas Airlangga – Dr. Soetomo General Academic, Surabaya, Indonesia

ARTICLE INFO

Keywords:

Anti-tuberculosis drug
DRESS
Pulmonary tuberculosis
Systemic steroid

ABSTRACT

Background: Anti-tuberculosis drugs (ATD) induced DRESS syndrome is rarely reported, and its diagnosis and management are very challenging.

Case presentation: A 33-year-old woman presented with fever, maculopapular rashes, hypereosinophilia, and hepatic involvement, which occurred 4 weeks after a fixed-dose combination of first-line ATD containing rifampicin, isoniazid, pyrazinamide, and ethambutol. The patient's condition improved after the withdrawal of the drugs and administration of systemic steroids. Furthermore, active pulmonary tuberculosis was treated with second-line ATD containing streptomycin, levofloxacin, and ethambutol with no adverse reaction.

Discussion: Early identification of the causal drug for ATD-induced DRESS syndrome is essential, and it helps to facilitate the treatment process. In some cases, the change from first-line ATD to second-line in pulmonary tuberculosis patients with the syndrome can be considered after recovery with strict follow-up. Furthermore, the administration of systemic corticosteroids for tuberculosis treatment is still debatable, but it had positive effects in this study.

Conclusion: Early recognition and withdrawal of all suspected drugs are crucial in managing DRESS because the delayed diagnosis can be life-threatening. The administration of systemic steroids is effective against DRESS in pulmonary tuberculosis infection.

1. Introduction

Drug reaction with eosinophilia and systemic symptoms (DRESS) is one of the drug-induced severe cutaneous adverse reactions (SCARs) [1, 2]. Furthermore, it is a rare condition but can also be life-threatening. The prevalence of DRESS ranges from 1 in 1000–10,000 people, with a mortality rate of 10–20% [3,4]. It is characterized by fever, skin eruption, hematological abnormalities, and systemic organ involvement with a long latency period of 2–8 weeks. These symptoms are often experienced after the intake of the culprit drug [5,6], such as anticonvulsant, allopurinol, non-steroidal anti-inflammatory drugs (NSAIDs), and antibiotics [3,7].

Anti-tuberculosis drug (ATD)-induced DRESS syndrome is uncommon, but the diagnosis is often delayed because it is underestimated and underreported for a few years. The condition is also difficult to manage because it involves an early withdrawal of suspected drugs for an

extended period while trying to identify the main causal drugs [3,8]. Patient therapy is often changed to less effective second-line treatment. This condition can cause TB disease progression, treatment failure, and acquired drug resistance. Clinicians often hesitate to use systemic corticosteroids for DRESS because of their potential immunosuppression effect [9]. Therefore, this case report summarizes the diagnosis and management of first-line ATD-induced DRESS in a patient with lung tuberculosis. We report based on SCARE 2020 guidelines [10].

2. Case presentation

A 33-years-old Javanese female complained of maculopapular rashes, which started in the abdominal area and spread over the entire body surface. The patient also complained of nausea, vomiting, cough, fever of 38.7 °C, and a month history of pulmonary tuberculosis prior to admission, with GeneXpert® MTB/RIF sputum showing *Mycobacterium*

* Corresponding author. Department of Internal Medicine, Faculty of Medicine, Universitas Airlangga – Dr. Soetomo General Academic Hospital, Jl. Mayjend Prof. Dr. Moestopo No. 6-8, Airlangga, Gubeng, Surabaya, East Java, 60286, Indonesia.

E-mail address: gatot_soegiarto@fk.unair.ac.id (G. Soegiarto).

<https://doi.org/10.1016/j.amsu.2022.104512>

Received 25 June 2022; Received in revised form 21 August 2022; Accepted 21 August 2022

Available online 27 August 2022

2049-0801/© 2022 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

tuberculosis. The patient also had a history of first-line ATD with a fixed-dose combination consisting of 150 mg rifampicin, 75 mg isoniazid, 400 mg pyrazinamide, and 275 mg ethambutol, 3 tablets per day for 4 weeks. The family history has pulmonary tuberculosis but no similar complaints with the patient.

The physical examination revealed the presence of icteric sclera, lymph node enlargement, and maculopapular rash >50% of the body surface area, as shown in Fig. 1. Chest X-ray showed bilateral infiltrates in the lower lung lobes (Fig. 2). Laboratory examination showed anemia (Hb level of 10.9 g/dL) and leukocytosis (WBC of $16.27 \times 10^3/\text{mm}^3$). The patient also had hyper-eosinophilia with 1960/ μL of eosinophil and thrombocytopenia with a platelet count of 106,000/L. Furthermore, atypical lymphocytes were also detected on the peripheral blood smear. The liver test results were abnormal with AST, ALT, albumin, direct and total bilirubin of 1145 U/L, 1474 U/L, 2.63 mg/dL, 3.21 mg/dL, and 3.76 mg/dL, respectively. Prolonged activated prothrombin time of 41.2s was also observed, along with elevated C-reactive protein of 87 mg/L. The progress of the laboratory results is presented in Table 1. Serological tests for viral infections, autoantibodies, and blood culture were negative. The clinical and laboratory findings fulfil the criteria for diagnosing definite DRESS syndrome according to the European Registry of Cutaneous Adverse Reaction (RegiSCAR), scoring 6.

The administration of ATD was temporarily stopped, and the patient was given intravenous methylprednisolone of 62.5 mg/day or 1.5 mg/kg/day for 7 days, along with 0.25% desoximetasone cream for skin rash. It was then followed by oral corticosteroid therapy at decreasing dose of 3×16 mg. On the fifth day, the clinical and laboratory findings and rash improved. Hence, the second-line ATD consisted of 750 mg streptomycin, 750 mg levofloxacin, and 800 mg ethambutol. The patient was discharged on the 8th day, and the skin lesions were gradually resolved. The pulmonary team advised continuing using tuberculosis treatment by replacing first-line ATD with second-line. There was improvement during the outpatient treatment, and no adverse reaction was observed, as shown in Fig. 2.

3. Discussion

Diagnosis of DRESS in the patient was established based on signs and

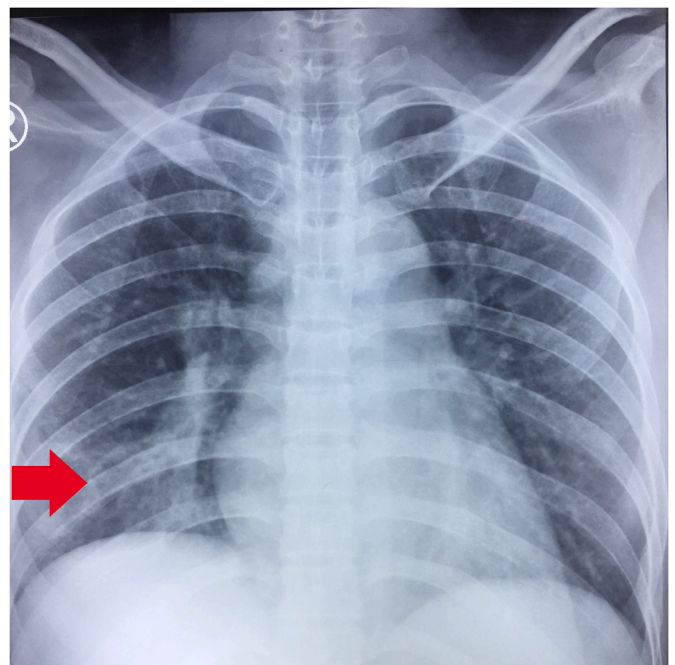


Fig. 2. Chest X-ray anterior-posterior showed infiltrate in right inferior lobe of the lung.

Table 1
Laboratory results of the patient.

Variable	Day 1	Day 2	Day 5	Day 8
Hb (g/dL)	10.9	10.5	10.0	10.3
WBC (cell count/uL)	16,270	18,930	15,420	12,340
Eosinophil (cell count/uL)	1960	2710	1880	400
PLT (cell count/uL)	106,000	173,000	200,000	248,000
AST (U/L)	1145	-	141	58
ALT (U/L)	1474	-	640	394
Direct Bilirubin (mg/dL)	3.21	-	-	1.1
Total Bilirubin (mg/dL)	3.76	-	-	1.58

Note: Hb, hemoglobin; WBC, white blood cells; PLT, platelet; ALT, alanine transaminase; AST, aspartate transaminase.

symptoms, including maculopapular rash, fever of $>38^\circ\text{C}$, transaminase elevation, leukocytosis, atypical lymphocytes, eosinophilia, and lymphadenopathy at multiple sites after 4 weeks of tuberculosis treatment. Medicines most commonly associated with DRESS syndrome are anticonvulsants, antibiotics (particularly β -lactams), and allopurinol. Other medications that are known to be associated with DRESS include non-steroidal anti-inflammatory drugs, captopril, stabilizers, and anti-retrovirals [11]. Furthermore, the diagnosis of definite DRESS syndrome is made when the RegiSCAR score >5 [9,12]. Management of ATD-induced DRESS syndrome includes early recognition, withdrawal of the offending drug(s), supportive treatment, and administration of corticosteroids [13,14]. Early identification of the causal drugs is essential to shorten the duration of treatment interruption. However, when tuberculosis treatment is needed immediately, specifically in severe conditions, 2-3 second-line ATD can be administered to minimize the impact of treatment interruption while awaiting drug re-challenge after recovery with strict follow-up [14,15].

In Indonesia, tuberculosis is an endemic disease and a significant health problem. Hence, it is essential to cure the affected patients and prevent their transmission, which helps to lower the incidence and prevalence rate [16,17]. Furthermore, the disease is more complicated when it occurs along with ATD-related DRESS syndrome because its management must consider the risk of acute liver failure associated with DRESS cases [18]. The patient in this study experienced signs and



Fig. 1. The diffuse maculopapular rash was observed on the abdomen and lower extremities at admission (A, B) and resolution of skin rash when discharged (C, D).

symptoms of liver disorders, such as icteric sclera, the elevation of AST, ALT, direct and total bilirubin of 1.145 U/L, 1474 U/L, 3.21 mg/dL, and 3.76mg/dL, respectively. This is consistent with a previous study that 75–94% of people with DRESS experienced liver disorders [14,19]. The ATD was temporarily stopped, and systemic steroids were administered at a dose >1 mg/kg/day. The dosage was lowered after 6–8 weeks and maintained for 2–3 months to prevent relapse [20,21]. Although systemic corticosteroid use is still debatable, its administration in the patient did not worsen pulmonary tuberculosis. The clinical and laboratory examination also showed improvement with a good prognosis. The administration of second-line ATD was then resumed for the patient.

4. Conclusion

A 33-years-old Javanese female complained of maculopapular rashes on the whole body after using first-line ATD for 4 weeks. The laboratory finding showed eosinophilia, atypical lymphocyte, and elevated liver enzyme. The RegiSCAR criteria obtained a score of 6, indicating DRESS occurrence. The first-line ATD was discontinued, while the patient received systemic steroid and supportive therapy. Subsequently, active tuberculosis was treated with second-line anti-tuberculosis drugs, consisting of streptomycin, levofloxacin, and ethambutol. The follow-up checkup showed the absence of clinical worsening.

Abbreviations

ALT = alanin aminotransferase; AST = aspartat aminotransferase; ATD = Anti-tuberculosis drug; DRESS = drug reaction with eosinophilia and systemic symptoms; Hb = hemoglobin, MTB = mycobacterium tuberculosis; RIF = rifampicin; SCARs = severe cutaneous adverse reactions; WBC = white blood cell.

Ethical approval

Not applicable.

Sources of funding

None.

Author contribution

All authors contributed to data analysis, drafting and revising the paper, giving final approval of the version to be published, and agreeing to be accountable for all aspects of the work.

Registration of Research Studies

1. Name of the registry: -.
2. Unique Identifying number or registration ID: -.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): -.

Guarantor

Gatot Soegiarto is the person in charge of the publication of our manuscript.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration of competing interest

Aghnia Permatasari and Gatot Soegiarto declare that they have no conflict of interest.

Acknowledgement

The authors thank the manuscript's editor, "Fis Citra Ariyanto".

References

- [1] Anggraeni S. Damayanti, C.R. Sp, M. Hutomo, H. Sukanto, Severe cutaneous adverse drug reaction, *Berkala Ilmu Kesehatan Kulit dan Kelamin* 29 (2) (2017) 151–157, <https://doi.org/10.20473/bikk.V29.2.2017.151-157>.
- [2] Damayanti, M.A. Umborowati, S. Anggraeni, C.R.S. Prakoeswa, M. Hutomo, H. Sukanto, Clinicoepidemiological profile of severe cutaneous adverse drug reaction: a retrospective study, *Berkala Ilmu Kesehatan Kulit dan Kelamin* 31 (1) (2019) 1–6, <https://doi.org/10.20473/bikk.V31.1.2019.1-6>.
- [3] M. Allouchery, S. Logerot, J. Cottin, P. Pralong, C. Villier, B. Ben Saïd, Antituberculosis drug-associated DRESS: a case series, *J. Allergy Clin. Immunol. Pract.* 6 (4) (2018) 1373–1380, <https://doi.org/10.1016/j.jaip.2017.11.021>.
- [4] P.T. Taweessedt, C.W. Nordstrom, J. Stoeckel, I. Dumic, Pulmonary manifestations of drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome: a systematic review, *BioMed Res. Int.* 2019 (2019), 7863815, <https://doi.org/10.1155/2019/7863815>.
- [5] S.A. Walsh, D. Creamer, Drug reaction with eosinophilia and systemic symptoms (DRESS): a clinical update and review of current thinking, *Clin. Exp. Dermatol.* 36 (1) (2011) 6–11, <https://doi.org/10.1111/j.1365-2230.2010.03967.x>.
- [6] L. Carneiro-Leão, I. Gomes, C. Freitas, E.S.M. Costa, R. Viseu, J. Cernadas, Multiple drug hypersensitivity syndrome to antituberculosis drugs: a case report, *J. Invest. Allergol. Clin. Immunol.* 30 (1) (2020) 70–71, <https://doi.org/10.18176/jiaci.0446>.
- [7] P.R. Criado, R.F. Criado, J.M. Avancini, C.G. Santi, Drug reaction with eosinophilia and systemic symptoms (DRESS)/drug-induced hypersensitivity syndrome (DIHS): a review of current concepts, *An. Bras. Dermatol.* 87 (3) (2012) 435–449, <https://doi.org/10.1590/s0365-05962012000300013>.
- [8] Q. Kizilbash, A. Vasquez, B. Seaworth, Strategies for successful treatment of active tuberculosis in the setting of DRESS on RIPE, *Open Forum Infect. Dis.* 5 (4) (2018) ofy062, <https://doi.org/10.1093/ofid/ofy062>.
- [9] H. Kwas, E. Guermazi, I. Khouaja, A. Khattab, I. Zendah, H. Ghédira, Drug rash with eosinophilia and systemic symptoms (DRESS) induced by antituberculous treatment, *La Tunisie medicale* 94 (12) (2016) 900.
- [10] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, A. Kerwan, The SCARE 2020 guideline: updating consensus surgical Case REport (SCARE) guidelines, *Int. J. Surg.* 84 (2020) 226–230, <https://doi.org/10.1016/j.ijsu.2020.10.034>.
- [11] J. Intarasupht, A. Kanchanomai, W. Leelasattakul, T. Chantrarat, A. Nakakes, W. Tiyanon, Prevalence, risk factors, and mortality outcome in the drug reaction with eosinophilia and systemic symptoms patients with cardiac involvement, *Int. J. Dermatol.* 57 (10) (2018) 1187–1191, <https://doi.org/10.1111/jid.14174>.
- [12] V. Descamps, S. Ranger-Rogez, DRESS syndrome, *Joint Bone Spine* 81 (1) (2014) 15–21, <https://doi.org/10.1016/j.jbspin.2013.05.002>.
- [13] S.A. Martínez-Cabriales, F. Rodríguez-Bolaños, N.H. Shear, Drug reaction with eosinophilia and systemic symptoms (DRESS): how far have we come? *Am. J. Clin. Dermatol.* 20 (2) (2019) 217–236, <https://doi.org/10.1007/s40257-018-00416-4>.
- [14] R. Cabañas, E. Ramírez, E. Sendagorta, R. Alamar, R. Barranco, N. Blanca-López, et al., Spanish guidelines for diagnosis, management, treatment, and prevention of DRESS syndrome, *J. Invest. Allergol. Clin. Immunol.* 30 (4) (2020) 229–253, <https://doi.org/10.18176/jiaci.0480>.
- [15] A. Kapur, H.S. Rehan, Drug reaction with eosinophilia and systemic symptoms syndrome associated with ethambutol use: a case report, *Curr. Drug Saf.* 14 (3) (2019) 249–251, <https://doi.org/10.2174/1574886314666190307150757>.
- [16] A. Fauzi, A. Permatasari, Disseminated tuberculosis with symptoms of decreased consciousness: a rare case in Indonesian male, *Ann. Med. Surg.* 73 (2012), 103209, <https://doi.org/10.1016/j.amsu.2021.103209>, 2022.
- [17] W. Wijaksono, W. Koesoemoprodjo, Hemorrhagic pleural effusion in Indonesian male with pulmonary tuberculosis: a rare case, *Int. J. Surg. Case Rep.* 91 (2022), 106800, <https://doi.org/10.1016/j.ijscr.2022.106800>.
- [18] P. Ichai, F. Saliba, F. Antoun, D. Azoulay, M. Sebah, T.M. Antonini, et al., Acute liver failure due to antitubercular therapy: strategy for antitubercular treatment before and after liver transplantation, *Liver Transplant.* 16 (10) (2010) 1136–1146, <https://doi.org/10.1002/lt.22125>.

- [19] Y.T. Cho, C.W. Yang, C.Y. Chu, Drug reaction with eosinophilia and systemic symptoms (DRESS): an interplay among drugs, viruses, and immune system, *Int. J. Mol. Sci.* 18 (6) (2017), <https://doi.org/10.3390/ijms18061243>.
- [20] J.Y. Lee, S.Y. Lee, J.E. Hahm, J.W. Ha, C.W. Kim, S.S. Kim, Clinical features of drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome: a study of 25 patients in Korea, *Int. J. Dermatol.* 56 (9) (2017) 944–951, <https://doi.org/10.1111/ijd.13667>.
- [21] T. Shiohara, Y. Mizukawa, Drug-induced hypersensitivity syndrome (DiHS)/drug reaction with eosinophilia and systemic symptoms (DRESS): an update in 2019, *Allergol. Int. : official journal of the Japanese Society of Allergology* 68 (3) (2019) 301–308, <https://doi.org/10.1016/j.alit.2019.03.006>.

**RUMAH SAKIT UMUM DAERAH Dr. SOETOMO
BIDANG PENELITIAN DAN PENGEMBANGAN
Komite Etik Penelitian Kesehatan
Jl. Mayjen. Prof. Dr. Moestopo 6 — 8, Telp. (031) 5501164-1539
SURABAYA**

SURAT KETERANGAN

Nomor: 50 /113/Komitlitkes/IV/2022

Yang bertanda tangan dibawah ini :

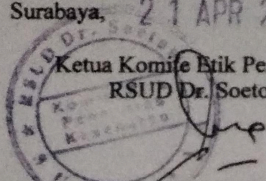
Nama : Prof. Dr. Hendy Hendarto, dr., Sp. OG (K)
NIP. : 19610817 198802 1 002
Jabatan : Ketua Komite Etik Penelitian RSUD Dr. Soetomo Surabaya

Dengan ini menerangkan bahwa artikel berikut:

Judul : Management of drug reaction with eosinophilia and systemic symptoms (DRESS) syndrom in female Indonesian with pulmonary tuberculosis: A rare case report
Penulis : Aghnia Permatasari, Gatot Soegiarto
Penerbit : Annals of Medicine and Surgery

Merupakan laporan dari kasus pasien seperti yang tersebut di dalam artikel, yang dirawat di RSUD Dr. Soetomo Surabaya dengan dokter penanggung jawab pasien (DPJP) Dr. Gatot Soegiarto, dr., Sp.PD, K-AI dan telah mendapatkan ijin dan persetujuan untuk menggunakan informasi rekam medis, sehingga dapat dipublikasikan sebagai salah satu bentuk tambahan dan pengembangan keilmuan.

Demikian Surat Keterangan ini dapat dipergunakan sebagaimana mestinya.

Surabaya, 21 APR 2022

Ketua Komite Etik Penelitian Kesehatan
RSUD Dr. Soetomo Surabaya
Prof. Dr. Hendy Hendarto, dr., Sp. OG (K)
Pembina Utama Madya
NIP. 196108 17198802 1 002