G61(P)

EFFICACY OF ANTIBIOTICS IN THE MANAGEMENT OF GRANULOMA ANNULARE IN CHILDREN: A SYSTEMATIC REVIEW OF THE LITERATURE

¹G Chia, ¹L Ahmed, ²P Sarooey, ³G Oligbu. ¹Department of Paediatrics, Northwick Park Hospital, London, UK; ²Paediatric Infectious Diseases, St George's Hospital, London, UK; ³Paediatric Infectious Disease Research Group, St George's University of London, London, UK

10.1136/archdischild-2018-rcpch.59

Introduction Granuloma annulare (GA) is a benign inflammatory dermatosis of unknown cause. The Generalised granuloma annulare (GGA) is a subtype of which tends to be resistant to treatment. Various antibiotics have been proposed as a potential therapy for GGA, the most recent being combination therapy with Rifampicin, Ofloxacin and Minocycline (ROM).

Aims This study aim to explore the efficacy of antibiotics in treating GGA, and whether antibiotics may be useful in Children.

Methods We undertook a systematic review of English literature published from August 1947 to July 2017 to evaluate the efficacy of antibiotics in treating GGA and extract relevant data in children less than 18 years. Data sources included MEDLINE, EMBASE, Cochrane library, and references of identified articles.

Results We identified 790 potential studies, of which 229 were duplicates. 541 were excluded on the basis of title and abstracts. Of the 20 eligible studies included in the final analysis. Studies were from USA (40%, n=8), Europe (35%, n=7), Asia (25%, n=5). Majority were case studies (65%, n=13), case series (10%, n=2), cohort studies (10%, n=2) and Open label prospective studies (15%, n=3; 2 on ROM therapy and 1 of dapsone). There were 113 treated patients, 60% (n=68) were female. Children constitute 14% (n=16/113), with age range 2–18 years, treated with antibiotics, of which 3 were GGA and 13 Non-GGA (i.e 8 Localised GA, 2 perforating GA, and 3 subcutaneous GA). Main antibiotic treatments reported were either the monthly combination therapy given as ROM, or single therapy of dapsone or doxycycline/Minocycline. There was a good response in Non-GGA in Children with only 15% recurrence rate while only 33% achieve remission in the GGA. Unlike adults, no side effects reported in Children.

Strength and limitations Our results highlight the strengths of combining outcomes of rare events. The lack randomised controlled trials, however, was a significant limitation. In addition, none of the literature looking at ROM combination therapy were in Children.

Conclusion There is paucity of evidence to support the use of antibiotics in the treatment of GGA in children. Although, recently ROM as shown promising results in adults, more studies are needed to validate this findings.

REFERENCES

1. Garg S, Baveja S. Monthly rifampicin, ofloxacin, and minocycline therapy for generalised and localised granuloma annulare. *Indian J Dermatol Venereol Leprol* 2015;**81**(1):35–39.
2. Simpson B, Foster S, Ku JH, Simpson EL, Ehst BD. Triple antibiotic combination therapy may improve but not resolve granuloma annulare. *Dermatologic Therapy* 2014;**27**(6):343–347.
3. Mahmood T, Mansouri B, Menter A. Successful treatment of generalised granuloma annulare with adalimumab. *Clin Exp Dermatol* 2015;**40**(5):537–539.
4. Garg S, Baveja S. Generalised granuloma annulare treated with monthly rifampicin, ofloxacin, and minocycline combination therapy. *Indian J Dermatol* 2013;**58**(3):197–199.

5. Successful treatment of recalcitrant disseminated granuloma annulare with minocycline, ofloxacin, and rifampin combination therapy. *Journal of the American Academy of Dermatology* 2013;**68**(4):AB64. <http://dx.doi.org/10.1016/j.jaad.2012.12.268> Accessed 8/20/2017 3:18:52 PM.
6. Marcus DV, Mahmoud BH, Hamzavi IH. Granuloma annulare treated with rifampin, ofloxacin, and minocycline combination therapy. *Arch Dermatol* 2009;**145**(7):787–789.
7. Steiner A, Pehamberger H, Wolff K. Sulfone treatment of granuloma annulare. *Journal of the American Academy of Dermatology* 1985;**13**(6):1004–1008. [http://dx.doi.org/10.1016/S0190-9622\(85\)70253-8](http://dx.doi.org/10.1016/S0190-9622(85)70253-8) [Accessed: 8/19/2017, 11:06:43 AM]
8. Boyd AS. Granuloma annulare responsive to oral calcitriol. *Int J Dermatol* 2012;**51**(1):120–122.
9. Martín-Sáez E, Fernández-Guarino M, Carrillo-Gijón R, Muñoz-Zato E, Jaén-Olasolo P. Efficacy of dapsone in disseminated granuloma annulare: A case report and review of the literature. *Actas Dermo-Sifiliográficas* (English ed.) 2008;**99**(1):64–68. [http://dx.doi.org/10.1016/S1578-2190\(08\)70196-3](http://dx.doi.org/10.1016/S1578-2190(08)70196-3) [Accessed: 8/16/2017 1:20:39 PM].
10. Gualco F, Zaccaria E, Drago F, Rebora A. Interstitial granuloma annulare and borreliosis: A new case. *Journal of the European Academy of Dermatology and Venereology* 2007;**21**(8):1117–1118.
11. Kiremitci U, Karagulle S, Topcu E, et al. Generalised granuloma annulare resolving to anetoderma. *Dermatol Online J* 2006;**12**(7):16.
12. Altomare GF, Frigerio E, Capella GL. Disseminated granuloma annulare: Effectiveness of sulphone treatment. *G Ital Dermatol Venereol* 2003;**138**(5):419–424.
13. Saied N, Schwartz RA, Estes SA. Treatment of generalised granuloma annulare with dapsone. *Arch Dermatol* 1980;**116**(12):1345–1346.
14. Cheng Y, Tsai W, Chuang F, et al. A retrospective analysis of 44 patients with granuloma annulare during an 11-year period from a tertiary medical centre in south Taiwan. *Dermatologica Sinica* 2016;**34**(3):121–125. Accessed 8/20/2017 3:19:30 PM. doi: <http://dx.doi.org/10.1016/j.dsi.2015.11.002>.
15. Yun JH, Lee JY, Kim MK, et al. Clinical and pathological features of generalised granuloma annulare with their correlation: A retrospective multicenter study in Korea. *Ann Dermatol* 2009;**21**(2):113–119.
16. Kozic H, Webster GF. Treatment of widespread granuloma annulare with adalimumab: A case report. *J Clin Aesthet Dermatol* 2011;**4**(11):42–43.
17. Duarte A, Mota A, Pereira M, Baudrier T, Azevedo F. Generalised granuloma annulare: Response to doxycycline. *Journal of the European Academy of Dermatology and Venereology* 2009;**23**(1):84–85.
18. Kovich O, Burgin S. Generalised granuloma annulare. *Dermatology Online Journal* 2005;**11**(4).
19. Ashida M, Katayama I, Kamo T. Oral minocycline improved generalised granuloma annulare possibly triggered by spider-bite (arachnidism). *Nishi Nihon Hifuka* 2004;**66**(3):246–250.
20. Successful treatment of generalised granuloma annulare with amoxicillin/clavulanic acid. *J Am Acad Dermatol* 74(5):AB73.

G62(P)

RECOGNITION OF PAEDIATRIC ANAPHYLAXIS – AN AUDIT OF ALLERGY ADMISSIONS TO OUR EMERGENCY DEPARTMENT

¹KR Geddes, ²N Rao. ¹Division of Medical Education, University of Manchester, Manchester, UK; ²Wythenshawe Hospital, Manchester University NHS Foundation Trust, Manchester, UK

10.1136/archdischild-2018-rcpch.60

Background Anaphylaxis is uncommon but very serious. The recognition of anaphylaxis can vary with experience. Although the guidelines from the Resuscitation Council provide a useful framework for diagnosis, the criteria they give are very much open to interpretation. Therefore, there is a wide heterogeneity in recognition and management of anaphylaxis.

Aims and objectives We aimed to audit whether anaphylaxis in children is being correctly identified and managed, as well as the epidemiology of allergy and anaphylaxis, in children presenting to our emergency department (ED).

Methods Retrospective case notes audit of all paediatric attendances to our ED between the 1 st of April 2015 and the 31 st August 2016. The notes were screened and a total of 279 children were identified as having IgE mediated reactions. Audit standards were based on NICE (Quality standards 118) and Resuscitation council recommendations.

Results 7.12% (20/279 patients) had documented signs of anaphylaxis. Only 11 of these patients were diagnosed and treated as anaphylaxis in ED. Of the 9 unrecognised and untreated patients 4 had documented wheeze and 5 had documented airway swelling.

In addition, 2.5% (n=7) children who had no objective symptoms of anaphylaxis were treated with adrenaline (1 self-administered, 2 paramedics, 4 in ED).

Only 11/20 patients with anaphylaxis were referred to paediatrics for observation and allergy assessment.

In 70% cases of anaphylaxis (n=14), the trigger was food. In 30% (n=6) no trigger was identified. Tree nuts (42%, 6 cases) was the most common food trigger for anaphylaxis.

While allergic reactions are more common in younger children (228 under 10 years vs 51 cases 11–16 years.), the proportion presenting in anaphylaxis is much higher in adolescents with 22% (11/51) presenting in anaphylaxis vs 4% (9/219) in 0–10 year olds.

Conclusion Our audit has given insight in to the age, sex, triggers and symptoms of children presenting in anaphylaxis and identifies disparity in the recognition and management of anaphylaxis in the ED. To standardise and improve care, it was recommended that a paediatric anaphylaxis care pathway should be implemented in line with the current guidance.

G63(P)

A COMPARITIVE ANALYSIS OF CONCURRENT MALARIA AND DENGUE INFECTION WITH EITHER INFECTION ALONE

A Ahmad, IA Khan. *Paediatrics, JN Medical College and Hospital, Aligarh Muslim University, Aligarh, India*

10.1136/archdischild-2018-rcpch.61

Aim In tropics, malaria and dengue are endemic and co-infections are common and often misdiagnosed as mono-infection. Only few co-infection cases have been reported in children, with insufficient data to enhance the understanding of the effects of co-infection. This study compared the clinico-haematological profile of malaria and dengue mono-infection with co-infection.

Methodology This was a cross-sectional observational study of patients hospitalised with acute febrile syndrome (history of fever in the past 7 days) who were investigated for malaria, dengue and other causes of fever. Clinical features and haematological parameters of malaria, dengue were compared with co-infections.

The diagnosis of malaria was confirmed by thick and thin blood smear microscopy. The diagnosis of dengue was made either by a positive serology (IgM) or a positive NS1 antigen or a positive molecular test (RT-PCR), considering that every patient was tested by all the three methods. Severity was classified and managed according to the World Health Organisation (WHO) guidelines for dengue and malaria

Results One hundred and thirty nine children positive for dengue, malaria or both, were analysed. Fifty-two (37.4%) were malaria, 74 (53.2%) were dengue and 13 (9.3%) were co-infection. Patients with co-infection had more chills and pruritis as compared to malaria and dengue ($p<0.05$). Bleeding manifestations like petechiae were comparable in both co-infection and dengue but not observed in malaria. Neurological manifestations like altered sensorium and seizures were not

observed in dengue ($p<0.05$) but comparable in malaria and co-infections. Jaundice was observed only in malaria. Hepatomegaly was comparable in all groups whereas splenomegaly was noted more in co-infections. Anaemia was observed significantly more in malaria ($p<0.05$) while other parameters like WBC, platelets and renal functions were comparable.

Conclusions A high index of suspicion for co-infection should be suspected in endemic areas for malaria and dengue. Jaundice and anaemia (in dengue patients) and spontaneous bleeding (in malaria patients) should raise the suspicion of co-infection. Whenever co-infection is confirmed, we recommend careful monitoring for bleeding and hepatic complications, which may result in a higher chance of severity, despite of the fact that no increased fatality rate was seen in our group.

G64(P)

AN ASSESSMENT OF THE DIAGNOSIS AND TREATMENT OF CYTOMEGALOVIRUS AT THE UNIVERSITY HOSPITAL OVER THE LAST 10 YEARS

E O'Loan, C Jones. *Faculty of Medicine, University of Southampton, Southampton, UK*

10.1136/archdischild-2018-rcpch.62

Background and aims Congenital cytomegalovirus (cCMV) is the most common congenital infection with a birth prevalence of 0.3%–0.7% in developing countries. It is the leading cause of non-genetic sensorineural hearing loss (SNHL) and an important cause of neurodisability. At birth, 10%–15% of infants are symptomatic and a further 10%–15% develop symptoms, mostly SNHL, by age 5 years. Despite this, there is limited awareness of cCMV, therefore meaning many infected infants are undiagnosed.

We aimed to determine the number of infants presenting to our University Hospital with cCMV over a 10 year period and to describe the diagnosis, treatment and outcome of these infants in order to refine our clinical pathways.

Methods Electronic patient databases were searched to identify patients diagnosed with cCMV between 01/09/2007 and 30/08/2017. A standardised data capture tool was designed and utilised to describe the clinical features and management of these children.

Results Forty infants were initially identified of which 4 were subsequently determined to have postnatal acquisition of CMV. Of the 36 infants with cCMV, 22 (61%) were symptomatic in the neonatal period and 6 (17%) developed sequelae beyond the neonatal period. The mean age of diagnosis was 4 months 10 days. The majority of infants were diagnosed using PCR of a urine sample. Eighteen (50%) of infants were treated with either ganciclovir or valganciclovir for either 6 weeks or 6 months. In total, 28 (78%) infants experienced long term adverse outcomes associated with CMV.

Conclusion Congenital CMV is a relatively rare condition, however it is associated with a significant health burden for infants, their families and the NHS. Increased awareness and education of pregnant women and healthcare professionals is essential to improve early diagnosis of cCMV and therefore increase the number of infants who might benefit from antiviral treatment. Follow-up of both symptomatic and asymptomatic infants is essential for early diagnosis of SNHL and therefore early intervention for these infants.