Journal of Interdisciplinary Cycle Research

ISSN: 0022-1945 (Print) (Online) Journal homepage: http://www.tandfonline.com/loi/nbrr19

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To cite this article: J.P. Gay , Y. Cherrah , N. Aadil , M. Hassar , J.L. Brazier & M. Ollagnier (1990) Influence of Ramadan on the pharmacokinetics of a SR preparation of theophylline and cortisol cycle, Journal of Interdisciplinary Cycle Research, 21:3, 190-192, DOI: 10.1080/09291019009360052

To link to this article: http://dx.doi.org/10.1080/09291019009360052

for various other chemical poisoning; and at 17:04 for all cases. While circannual variations were macroscopically apparent, the probability for rejection of the zero circannual amplitude assumption was 0.132.

These results from a single hospital should be checked in more hospitals around the world before social chronopediatrics can plan on the basis of such statistics. The staffing in the pediatric emergency rooms studied should pay attention to a likely peaking of cases in the afternoon hours.

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Support: NHLBI (HL-40650); NGM (GM-13981); Fondo de Investigaciones Sanitarias de la Seguridad Social; Xunta de Galicia Conselleria de Sanidad.

Influence of Ramadan on the Pharmacokinetics of a SR Preparation of Theophylline and Cortisol Cycle

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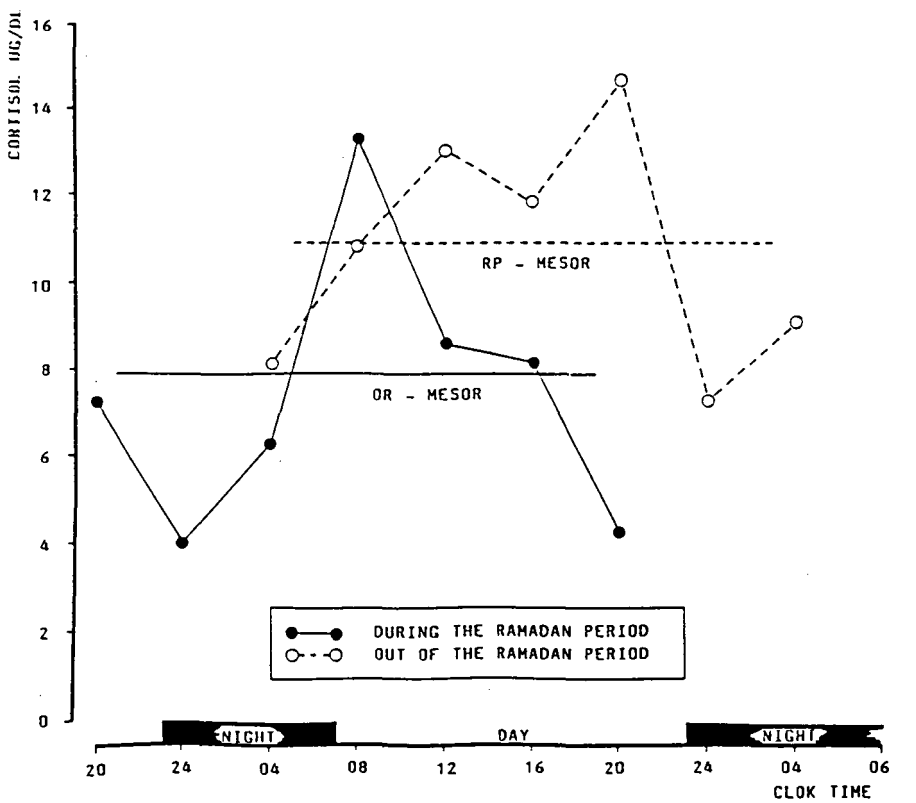
In muslim countries people have to comply with an absolute diurnal fasting during the ramadan period (RP), which lasts 29-30 days.

So, it is necessary to adapt therapeutic patterns with the new rhythms of activities and food consumption.

We designed a cross-over pharmacokinetic study of a sustained release formulation of theophylline (Armophylline R°) including 10 healthy volunteers (in Rabat - Morocco), each one was his own control. A single oral dose of 10 mg/kg of theophylline was administered at 20.00 h and 04.00 hours during the third week of the RP and during a reference period out of ramadan (OR). Ten milliliters of blood were withdrawn before and 1, 2, 3, 4, 6, 8, 10, 12, 16, 20, 24 hours after drug administration. Simultaneously we investigated the cortisol cycle from the blood samples withdrawn before and 4, 8, 12, 16, 20, 24 hours after drug administration.

Table 1. Paired t test in the same period.
a: comparison of times (1 : $p < 0.001$; 2 : $p < 0.01$; 3 : $p < 0.02$; 4 : $p < 0.05$)
b. comparison of period (1 : $p < 0.001$; 2 : $p < 0.01$; 3 : $p < 0.02$; 4 : $p < 0.05$)

Administration time	04.00				20.00			
Administration period	OR		RP		OR		RP	
Cmax ± SD (mg/l)	12.0	3.8	13.3	2.5	13.9	1.3	11.6	3.2
Tmax ± SD (hours)	7.60	1.50^{a1}_{b2}	11.20	2.23	12.60	2.54^{b4}	9.60	2.65
AUC^{24} + SD °⁻ (mg. h/l)	166.7	54.7	196.9	35.2^{a1}	194.1	29.1^{b4}	172.6	38.2
t 1/2B ± SD (hours)	6.76	1.21^{a2}_{b3}	8.80	2.14	9.56	1.54	9.42	2.23
MRT ± SD (hours)	15.38	7.31^{a2}_{b3}	45.12	39.20	38.98	14.42	33.36	24.85



Theophylline and cortisol levels were determined in plasma using a FPIA method (TDx Abbott). The mean of pharmacokinetic parameters are given in Table 1. From these data we can observe that after the 04.00 - OR administration, Tmax, t 1/2 ß and MRT are always significantly shorter than after the 04.00 - RP or the 20.00 - OR administration, when the AUC after the 20.00 - RP administration was significantly smaller than after 20.00 - OR and 04.00 - RP administration.

Figure 1 displays the time course of the cortisol levels during and out of the ramadan period. We can observe a rising of the mesor and a 12-hours shift of the acrophase during the ramadan period.

These results are discussed on the basis of fasting-feeding periods and endocrinological background variations.

Posttraumatic Nightmares and Timing of REM Sleep

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There is substantial evidence for disordered REM sleep function in subjects suffering from nightmares after exposure to severe situational stress. Nightmares might be generated by inappropriate REM sleep recruitment (1). As the tendency to enter into and remain in REM sleep is influenced by circadian factors, a circadian rhythm disturbance can be supposed. Therefore we studied the relation of nightmares with timing of REM sleep and some other sleep parameters.

30 males subjects aged 60-65 years with a history of exposure to severe stress during world war II participated in the study. All subjects underwent a medical and psychiatric investigation. None of the subjects suffered from a major neurologic or systemic disease or had psychotic symptoms at the time of the study. Sleep history including reported nightmare incidence during the last year was taken from both subjects and their bedpartners. Sleep studies were done at home by means of a 24-hour portable recorder system (2). The subjects were instructed to continue their daily activities as much as possible during the registration. No prescriptions were given as for time of going to bed or sleep duration. Sleep stages were scored and hypnograms and trends of body temperature and heart rate were plotted. For the purpose of this study the following parameters were assessed: sleep onset, half-times (T1/2) of deep NREM sleep (stages III-IV) and of REM sleep and times (Tmin) at which body temperature and heart rate reached