

KEY WORDS OF MODERN ANTIFUNGAL THERAPY

CYTOCHROME P450

OR WHAT'S IN A NAME...

The metabolism of fungi is almost identical to that of other eukaryotic organisms, such as humans. Therefore, trying to design a systemic drug that kills fungi without harming their human host means searching for infinitesimal differences in metabolic pathways.

Selective precision for the metabolic pathways in fungi, as distinct from those in humans, remains the key determinant for any systemic antimycotic, regardless of its point of biochemical interaction. This precision has been achieved to an exceptional degree with itraconazole, alias Sporanox*, because it selectively inactivates the fungal cytochrome P450 only.

Figure 1 is a simplified illustration of one of the pathways for the enzymatic ergosterol synthesis in fungal cell membranes. (Ergosterol is essential for the structural cohesion of these membranes). Pharmacologically one can disrupt this process at two distinct points. The first is where squalene is made into an oxide. Alternatively, one can interfere where lanosterol is converted into ergosterol, by inactivating **cytochrome P450** — a chemical catalyst that performs a vital function in the enzymatic reaction. The broadest research experience to date has been gathered with the latter approach. Importantly, in view of the close similarities between the enzymatic processes in fungi and humans, either approach must be highly selective in disrupting the fungal enzyme systems only.

Sporanox*

itraconazole

SHORT AND SIMPLE ORAL THERAPY

standard dose in dermatomycoses: 1 capsule (100 mg) once daily for 15 days
standard dose in vaginal candidosis: 2 x 2 capsules (400 mg) for 1 day only

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JANSSEN
PHARMACEUTICA
2340 Beerse, Belgium
expertise in
antimycotic research

Properties: Sporanox (itraconazole), a triazole derivative, is orally active against infections with dermatophytes (*Trichophyton* spp., *Microsporum* spp., *Epidermophyton floccosum*), yeasts (*Candida* spp., *Pityrosporum* spp.), *Aspergillus* spp. and various other yeasts and fungi. **Indications:** Sporanox (itraconazole) is indicated for vulvovaginal candidosis, pityriasis versicolor, dermatophytoses, fungal keratitis and oral candidosis. **Dosage and administration:** Vulvovaginal candidosis: 2 capsules (200 mg) morning and evening for 1 day, Pi-

tyriasis versicolor: 2 capsules (200 mg) once daily for 7 days. - Tinea corporis, tinea cruris, tinea pedis, tinea manus: 1 capsule (100 mg) daily for 15 days; highly keratinized regions, as in plantar tinea pedis and palmar tinea manus, require 1 capsule (100 mg) daily for 30 days. - Oral candidosis: 1 capsule (100 mg) daily for 15 days. - Fungal keratitis: 2 capsules (200 mg) once daily for 21 days. **Contra-indications:** Sporanox (itraconazole) is contra-indicated during pregnancy. **Warnings and precautions:** Although clinically Sporanox (itraconazole)

has not been associated with hepatic dysfunction, it is advisable not to give this drug to patients with a known history of liver disease. **Nursing mothers:** It is recommended not to breast feed whilst taking Sporanox (itraconazole).

Drug interactions: Sporanox (itraconazole) should not be given concomitantly with rifampicin.

Full prescribing information is available on request.

In association with the British Cardiac Society

Assistant Editors: M.J. Davies, Kim Fox, Peter Mills

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● In August the focus is on new technology - battery powered angioplasty. Professor Serruys and his group from the Thorax Centre, Rotterdam compare the new technique with an established one (balloon angioplasty). In the same issue a team at St. George's Hospital describe their early experience with low speed rotational angioplasty. The whole topic is put in context in an accompanying editorial by Ulrich Sigwart, a pioneer in interventional cardiology.

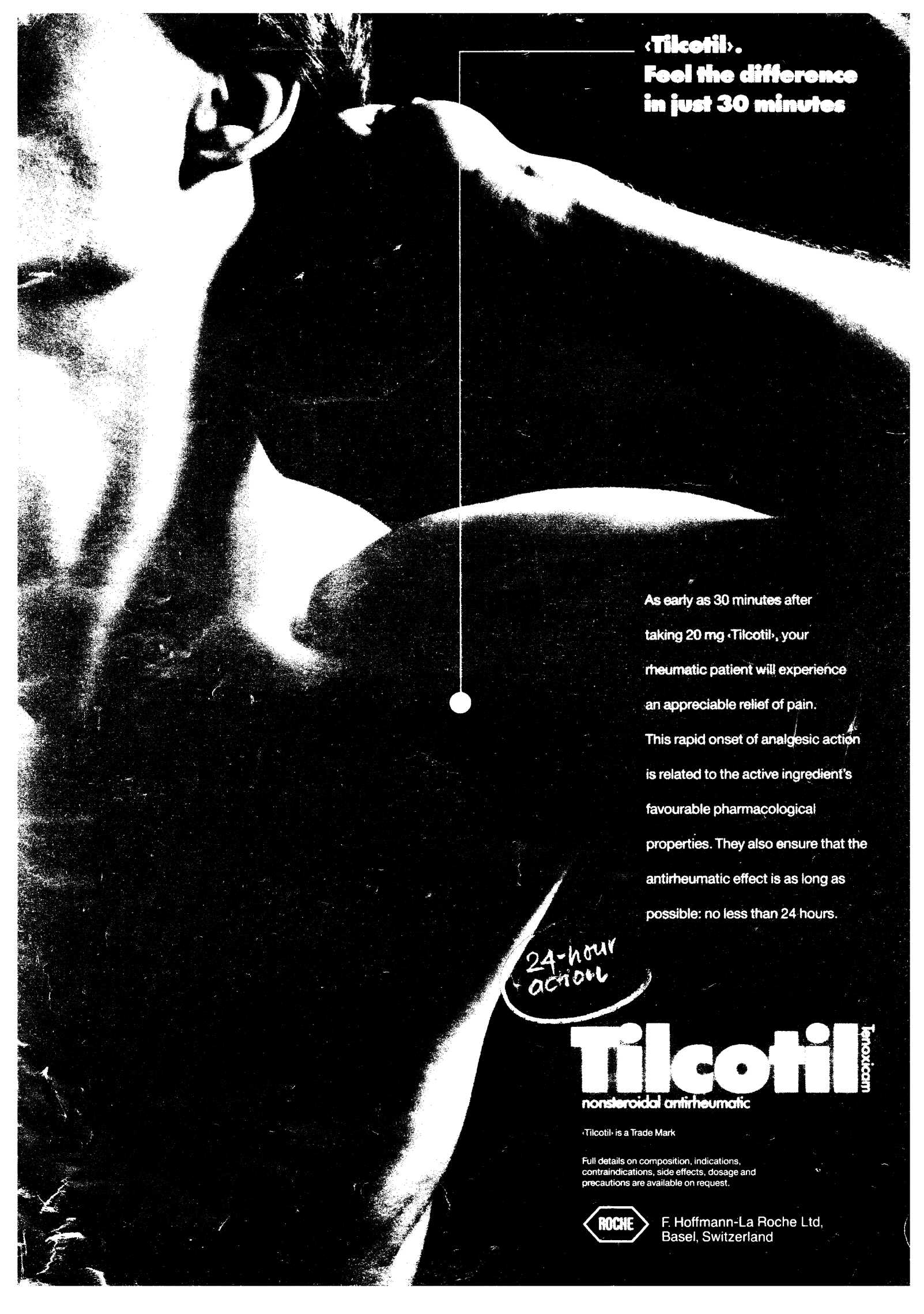
- An editorial in the June issue asks "Should we get up in the morning?"—prompted by the growing awareness of the circadian variation in cardiac events. This was fuelled by an original article, published in the April issue, "Circadian Variation in the Frequency of Onset of Chest Pain in Acute Myocardial Infarction."
- The pathophysiology of the processes underlying the development (atherosclerosis) and timing (thrombosis) of cardiac events was reviewed in the June issue by M.J. Davies and Drs Krikler and Katz (Atherosclerosis: inhibition or regression as therapeutic possibilities.)

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References 1. Knipf JE, *et al*: Dig Dis Sci 29: 194 (1984); 2. Karihas JP, *et al*: Gastroenterology 87: 157 (1985); 3. Malagelada JR, *et al*: Gastroenterology 88: 1023 (1985); 4. Cecatti P, *et al*: Gut 29: 631 (1988); 5. Collins B, *et al*: Hepato-Gastroenterol 34: 113 (1987); 6. van R, *et al*: Dig Dis Sci 33: 957 (1989).