with antibody to HTLV-I, none of whom were positive for GBV-C RNA. Among the donors infected with HTLV-I, GBV-C RNA was detected in 4.9% of 81 aged ≥ 50 years, 3.1% of 226 between 30 and 49 years and none of 87 aged < 30 years.
These results indicate that the residents of Nagasaki infected with HTLV-I are at high risk of infection with GBV-C increasing with age and that the infection with GBV-C may not cause a severe hepatic injury in them. HTLV-I is known to be transmitted via breast feeding [4] and predominantly from males to females by sexual contact [5]. It is not clear, however, how GBV-C spreads among the individuals infected with HTLV-I in Nagasaki.

S. Chiyoda, J. Inoue, H. Okamoto

References

1. **Hinuma, Y., Komoda, H., Chosa, T., Kondo, Y., Kohakura, M., Takenaka, T., Kikuchi, M., Ichimaru, M., Yunoki, K., Sato, I., Matsuo, R., Takiuchi, Y., Uchino, H., Hanaoka, M.:** Antibodies to adult T-cell leukemia-virus-associated antigen (ATLA) in sera from patients with ATL and controls in Japan: a nation-wide sero-epidemiologic study. Int. J. Cancer 29 (1982) 631–635.
2. **Simons, J. N., Leary, T. P., Dawson, G. J., Pilot-Matias, T. J., Muerhoff, A. S., Schlauder, G. G., Desai, S. M., Mushahwar, I. K.:** Isolation of novel virus-like sequences associated with human hepatitis. Nat. Med. 1 (1995) 564–569.
3. **Shimizu, M., Osada, K., Okamoto, H.:** Transfusion-transmitted hepatitis G virus following open heart surgery. Transfusion 36 (1996) 937.
4. **Hino, S., Yamaguchi, K., Katamine, S., Sugiyama, H., Amagasaki, T., Kinoshita, K., Yoshida, Y., Doi, H., Tsuji, Y., Miyamoto, Y.:** Mother-to-child transmission of human T-cell leukemia virus type-I. Jpn. J. Cancer Res. 76 (1985) 474–480.
5. **Tajima, K., Tominaga, S., Suchi, T., Kawagoe, T., Komoda, H., Hinuma, Y., Oda, T., Fujita, K.:** Epidemiological analysis of the distribution of antibody to adult T-cell leukemia-virus-associated antigen: possible horizontal transmission of adult T-cell leukemia virus. Gann 73 (1982) 893–901.

Nosocomial *Cryptococcus laurentii* Fungemia in a Bone Marrow Transplant Patient after Prophylaxis with Ketoconazole Successfully Treated with Oral Fluconazole

With increasing immunosuppression due to antineoplastic therapy, organ transplantation, catheter insertion, dialysis and other invasive diagnostic andd therapeutic procedures, systemic fungal infections are observed more frequently [1]. Yeasts, mostly *Candida albicans* and non-albicans *Candida* spp., but also *Trichosporon* spp. and *Malaessezia* spp. may cause fungemias with or without organ complications. In contrast, molds cause fungemias only rarely (e. g. *Fusarium solani*) [2]. Fungemia-assocciated mortality in cancer patients is 50–70% [1, 2]. Patient isolation and chemoprophylaxis with azoles are widely used in bone marrow transplantation (BMT) and leukemic patients to decrease the incidence of fungal infections. Chemophrophylaxis with azoles aims at preventing infections with the most frequent pathogens, such as *Candida* spp. [3]. Despite prophylaxis, breakthrough fungemias may occasionally appear mainly in heavily immunosuppressed patients.
Here we describe breaktrough fungemia due to *Cryptococcus laurentii* in a BMT patient despite prophylaxis with ketoconazole. A Medline search did not reveal any previous reports on cryptococcal fungemia in non-AIDS patients.

Case Report

A 17-year-old patient was neutropenic for 14 days (< 500 granulocytes per mm^3) without fever 1 month after autologous BMT. He had received prophylaxis for 22 days with oral ketoconazole 200 mg b. d. plus ofloxacin 200 mg b. d. After recovery of his granulocyte count (> 1,000/mm^3), he was transferred to an open ward but after a week became febrile and received empiric therapy with ceftazidime plus teicoplanin and was afebrile on the next day (24 h after beginning of antibiotic therapy). Blood cultures drawn on the 3rd day of therapy grew yeastlike organisms, identified as *C. laurentii* (Vitek Jr. indentification systems, Vitek Inc.). The central venous catheter was removed, and culture was negative. The patient was treated orally with fluconazole 200 mg o. d. for 14 days.
The patients was still afebrile and showed no signs of disseminated infection. Follow-up for 4 months showed no relapse. This is the first isolate of *Cryptococcus* spp. in our cancer centre in the past 5 years [4].
Despite the use of azoles in prophylaxis, we have had nine breakthrough fungemias within the last 2 years due to *C. albicans* [2], *Candida glabrata* [2], *Trichosporon beigelii* [1], *Blastoschizomyces capitatus* [2], *Rhodotorula ruba* [1] and *Hansenula anomala* [1]. *Cryptococcus* spp. is a common pathogen in AIDS but rare in cancer patients.
In the Medline search we found many reports of *Cryptococcus neoformans* meningitis in AIDS patients accompanied by fungemia, but no case of *C. laurentii* fungemia. Nevertheless, with the increasing intensity of antineoplastic chemotherapy, many yeasts, previously considered as colonizers or plant or animal pathogens, may be observed as pathogens.

V. Krčméry Jr., A. Kunova, J. Mardiak

References

1. **Annaisie, E., Bodey, G.:** New emerging fungal pathogens. Eur. J. Clin. Microbiol. Inf. Dis. 11 (1992) 339–342.
2. **Krčméry, V. Jr.:** Candidiasis, apergillosis and mucormycosis in cancer centre. Mycoses 10 (1991) 321–323.
3. **Goodman, J. and the BMT study group:** A prospective randomised trial in fluconazole versus placebo for prevention of fungal infections in BMT patients. N. Engl. J. Med. 326 (1992) 1192–1199.
4. **Kunova, A., Krčméry, V. Jr.:** *C. glabrata, C. krusei* and other non-albicans *Candida* spp. surveillance in 5 years in National Cancer Centre. Chemotherapy 41 (1995) 44–49.

Received: 13 March 1996/Accepted: 15. April 1996

Prof. *V. Krčméry* Jr., M. D., Ph. D., *A. Kunova, J. Mardiak*, Postgraduate Medical School, Limbova 12, 83303 Bratislava, Slovak Republic.