INTRODUCTION
Penicilliosis is a disseminated infection endemic to Southeast Asia and China caused by Penicillium marneffei, a dimorphic fungus and an intracellular pathogen for humans. P. marneffei infection was first isolated from the bamboo rat, Rhizomyz sinensis1 in Vietnam in 1956. Human beings get infected from organisms in contaminated soil2. P. marneffei has emerged as a major opportunistic infection in AIDS patients that present with fever, anemia, leukopenia, weight loss and hepatosplenomegaly. Characteristic molluscum-contagiosum like lesions are seen on the face, neck and trunk. Diagnosis is made by presence of the organism skin lesions, blood and bone marrow. However, these elements can histologically mimic Histoplasma capsulatum, and occasionally Cryptococcus neoformans or Leishmania sp. We present here two cases of Penicilliosis diagnosed at Memorial Hermann Hospital in the Texas Medical Center one year apart in patients who were recent immigrants, a 31-year-old man with AIDS and a 4-year-old boy, from Southeast Asian countries.

TWO CASES
The 31-year-old Burmese man with AIDS was hospitalized for fever, malaise, and weight loss three days, and a CD4 count of 8 cells/ml, after he had arrived from a refugee camp in Thailand. He had two previous episodes of pneumonia and IgG of 180 mg/dL. He presented with persistent fever, cough, and flu-like symptoms for 2-3 weeks, significant hepatosplenomegaly and similar circular, nonerythematous papules with central umbilication (molluscum contagiosum - like) on forehead and back. He was treated with IV Amphotericin and IVIG.

RESULTS
Both patients had the following findings in the skin and bone marrow. Punch biopsy of the skin lesion showed intracellular yeast-like forms in the dermis (Figure 2 and 4). A bone marrow exam showed intra- and extracellular yeast forms not unlike H. capsulatum (Figure 3) and fungal culture grew downy grey-white colonies surrounded by diffusible red pigment (Figure 5). Microscopic examination of the culture showed brush-like clusters of septate hyphae with terminal conidospores (Figure 3) and fungal culture grew downy grey-white colonies surrounded by diffusible red pigment (Figure 5). On microscopy, this mold forms smooth conidiophores with 4 - 5 terminal metulae (penicilli)1 each bearing 4 - 6 phialides resulting in structures resembling a paint brush. At 37°C they form single-celled arthroconidia (3-5 µm) that reproduce by binary fission2. Due to antigen crossreactivity, the Histoplasma antigen test can be falsely positive. Initial treatment of Penicillium marneffei infection is with Amphotericin B and Itraconazole. Relapses occur and hence the patient should be given life long prophylaxis treatment3.

CONCLUSION
Penicilliosis is an AIDS-defining disease usually found in Southeast Asia and Southern China and rare in the Western world. The urine antigen test for H. capsulatum can be falsely positive and the organisms have morphologic similarity to Histoplasma. Making the distinction is based on the clinical exam and distinct fungal growth characteristics.

DISCUSSION
Penicilliosis affect immunocompromised patients and occasionally immunocompetent individuals who live in endemic areas of Southeast Asia. As seen in these two cases, the skin lesions occur on the face, especially the forehead, and there may also be mucosal lesions. Histologically, P. marneffei are seen as intracellular and extracellular oval yeast forms with septa resulting from binary fission2. Having a histologic appearance similar to H. capsulatum, P. marneffei is however quite distinct in its mycelial characteristics. It is a thermally dimorphic fungus that produce fluffy grey-white colony with soluble deep-red pigment at 25-30°C. On microscopy, this mold form demonstrates smooth conidiophores with 4 - 5 terminal metulae (penicilli)2 each bearing 4 - 6 phialides resulting in structures resembling a paint brush. At 37°C they form single-celled arthroconidia (3-5 µm) that reproduce by binary fission2. Due to antigen crossreactivity, the Histoplasma antigen test can be falsely positive. Initial treatment of Penicillium marneffei infection is with Amphotericin B and Itraconazole. Relapses occur and hence the patient should be given life long prophylaxis treatment3.

REFERENCES