775 BACITRACIN DISC SCREENING OF THROAT CULTURES FROM A 1976 PEDIATRIC OUTPATIENT POPULATION. Marion Hosmer, Katherine Sprunt, Gilbert Mellin. Columbia University, College of Physicians and Surgeons, Department of Pediatrics, Babies Hospital, New York, 10032

In the year 1976, 9614 outpatient throat cultures were received in the Babies Hospital Bacteriology Laboratory. Cultures were plated on sheep blood agar with bacitracin disc applied and incubated overnight at 35° C. in a GASPAK anaerobic jar. 60% had no beta hemolytic colonies. Of the 40% with beta hemolytic colonies, 16% required further identification, 7% by replate, 9% by fluorescent antibody (FA). 21% of all cultures and 52% of all cultures with beta hemolytic colonies were presumptive Group A Strep (group 3). The ratio of Presumptive Group A Strep to non Group A Strep cultures was remarkably consistant month by month.

	PERCENTAGE BY MONTH												Year
Group	J	F	M	A	M	J	J	A	S	O	N	D	Total
1	61	60	61	53	48	64	66	66	66	65	65	52	60
2	23	17	16	19	19	16	18	20	17	18	14	24	19
3	16	23	23	28	33	20	16	14	17	17	21	24	21
Total %	100	100	100	100	100	100	100	100	100	100	100	100	100
# cult	1278	8321093		885	792	774	667	748	546	508	614	877	9614

Group 1 - no beta hemolytic colonies
Group 2 - beta hemo col, bacitracin resistant or FA negative
Group 3 - beta hemo col, bacitracin sensitive or FA positive

776 SUCCESSFUL CHEMOPROPHYLAXIS FOR *Pneumocystis carinii* PNEUMONITIS (PCP). Walter Hughes, Shirley Kuhn, Subhash Chaudhary, Sandor Feldman, Manuel Verzosa, Rhomes Aur and Charles Pratt. Infectious Diseases and Hematology-Oncology Services, St. Jude Children's Research Hospital, Memphis.

After demonstrating in animal studies that trimethoprim-sulfamethoxazole (TMP-SMZ) administered prophylactically prevented PCP, a double-blind, placebo-controlled study was done in children with cancer at high risk for PCP. A group of 160 children with an expected attack rate of 20% for PCP, were randomized to receive TMP-SMZ or a placebo from Oct. 1974 to Oct. 1976.

PCP occurred in 17/80 (21%) of the placebo group and none of the 80 patients receiving TMP-SMZ. The occurrences of certain other infections in the two groups are tabulated:

	Episodes per 30,000 patient days	
Category	Placebo	TMP-SMZ
Bacterial sepsis	16	6
Pneumonia (Not PCP)	21	8
Acute otitis media	50	6
U.R.I.	111	50
Cellulitis	25	9
Disseminated mycoses	3	4
Oral candidiasis	13	31

Serial bacterial and fungal cultures of the pharynx and rectum, tests for renal and liver function and serum folate determinations revealed no adverse effects from TMP-SMZ prophylaxis. The course of the malignancies was not affected. TMP-SMZ prophylaxis is an effective approach to the prevention of PCP as well as certain other infections and, with the exception of oral candidiasis, is not associated with significant adverse effects.

777 PNEUMOCYSTIS PNEUMONIA (PCP) IN CHILDHOOD CANCER: NEW METHOD OF LUNG BIOPSY AND RESULTS OF THERAPY. Eva V. Hvizdala and Bradley M. Rodgers, Univ. of Florida Medical Center, Gainesville, FL 32610. (Introduced by Diane Komp)

The incidence of PCP at the University of Florida during the 12 months period 10/75 to 10/76 was 6.8%(10/147 children treated with intensive chemotherapy). Primary diagnoses included: 7 leukemia and 3 solid tumor patients. 4/7 ALL patients were in remission(median duration 91.5 days); 3 leukemia and 2 solid tumor patients were in relapse.

Presenting symptoms: fever-10/10; cough-9/10; tachypnea-6/10 and dyspnea-3/10. In 9/10 cases an interstitial pneumonitis was revealed on x-ray and a lung biopsy was performed within 24 hours following this finding. In one child, first in our series, an abnormal x-ray was present 4 weeks before biopsy.

The method of diagnosis, thoracoscopy, was performed under intramuscular anesthesia, without endotracheal tube. It allowed for direct observation and intrathoracic biopsy. Equipment utilized for this procedure was the Karl Stolls peritoneoscope set employing the Hopkins fibroscope and biopsy forceps. The method proved safe even in seriously ill patients and complications were minimal. 1 case of pneumothorax was resolved by reposition of tubing and there was 1 case of mild subcutaneous emphysema.

All patients were treated with TPM 20mg/kg/d and SMX 100mg/kg/d 7 patients recovered, symptoms improved within 4 days after therapy was begun. 3 patients died, 2 patients had progressive tumors, 1 was complicated by sepsis. The cure rate in this incidence was 70%.

778 COMPARISON OF A COMBINED QUALITATIVE AND SEMIQUANTITATIVE URINE CULTURE METHOD WITH THE STANDARD CALIBRATED LOOP METHOD. Abdollah Iravani, Norman Pryor, George A. Richard (Spon. by Martin Schulkind), University of Florida College of Medicine, Dept. of Pediatrics, Gainesville.

229 urines obtained from college coeds with acute urinary tract infections were examined by comparing the standard calibrated loop culture method with a combination of qualitative Greiss Test (Bac-U-Dip) and a semiquantitative (Bacturcult) method.

	LOOP	B/C (+)	BUD (+)	Combined (+)
	NG	1/70	5/70	1/70
F.P.				
	<10,000	14/109	5/109	1/109
		B/C (-)	BUD (-)	Combined (-)
	>50,000	0/89	50/89	0/89
F.N.				
	>100,000	0/66	33/66	0/66

Analysis of the data demonstrated a small false positive (F.P.) but a marked false negative (F.N.) rate for Bac-U-Dip (BUD). The false negative rate for Bacturcult (B/C) was zero and the false positive rate, when compared to a no-growth culture (NG) was also low (1/70).

The combination of Bacturcult and Bac-U-Dip provides both low false positive and false negative rates.

779 UTILIZATION OF LIPOSOMES FOR CORRECTION OF THE METABOLIC DEFICIENCIES IN CHRONIC GRANULOMATOUS DISEASE (CGD). Ghazally Ismail, Laurence A. Boxer and Robert L. Baehner, Indiana University School of Medicine, J.W. Riley Hospital for Children, Department of Pediatrics, Indianapolis.

Previous studies have shown that latex particles coated with glucose oxidase (GO) would partially correct the metabolic defects in CGD polymorphonuclear leukocytes (PMN). In order to develop a technique with better therapeutic advantage, we studied the efficacy of preparing liposomes (LP) containing the hydrogen peroxide (H_2O_2) generating GO. The activity of GO incorporated within the LP could only be demonstrated after treatment of the LP with Triton X-100. LP were coated with heat-aggregated human IgG, thereby increasing their capability to be phagocytized by PMN. CGD PMN oxidized glucose-1-^{14}C upon phagocytosis of GO-containing LP at levels 4-fold greater at 30 min than CGD PMN stimulated either with latex particles or with heat-inactivated GO-containing LP. Similarly, CGD PMN increased their iodination activity 4-fold over 60 min upon exposure to GO-containing LP when compared to only a 1.3-fold increase upon exposure to heat-inactivated GO-containing LP plus zymosan. After 100 min of incubation with *Staphylococcus aureus* and GO-containing LP CGD PMN killed 0.6 log bacteria compared to a 0.3 log bacteria kill with heat-inactivated GO-containing LP. We conclude that GO can be incorporated into LP and these LP can be internalized by CGD to generate H_2O_2. Thus, a potential therapeutic modality for CGD may be the administration of LP containing oxidant generating enzymes.

780 EFFECT OF METHYL-PREDNISOLONE AND POLYMIXIN B-SULPHATE ON ENDOTOXIN INDUCED INHIBITION OF HUMAN NEUTROPHIL CHEMOTAXIS. Andrew C. Issekutz, Matilda Ng and W. Douglas Biggar (Spon.by A.Sass-Kortsak). Departments of Pediatrics and Immunology, The Hospital for Sick Children, Toronto, Ont. M5G 1X8

We have found that Escherichia coli endotoxin (LPS, 1ng/ml) inhibits neutrophil chemotaxis towards C5a by 85% but has no effect on chemotaxis towards two bacterial derived chemotactic factors. We investigated the influence of methyl-prednisolone (MP) and polymixin B-SO_4 (P-B) on this "anti-chemotactic" effect of LPS, since these two drugs are known to inhibit some of the biological effects of LPS. In the presence of MP (5×10^{-5}M), the 50% inhibitory concentration (IC_{50}) for LPS was increased from 0.2 ng/ml to 2.2 ng/ml. Hydrocortisone at 4.5×10^{-4}M and dexamethasone at 1.25×10^{-5}M were as effective in inhibiting LPS as was 5×10^{-5}M MP. Desoxycorticosterone, testosterone and estradiol-17β had no such effect. In the presence of P-B (2 µg/ml), the IC_{50} for LPS was increased to 12 ng/ml. In the presence of both P-B (2 µg/ml) and M-P (5×10^{-5}M) the IC_{50} for LPS was increased to 60 ng/ml. In separate experiments MP appeared to exert its effect by interacting with the neutrophil while P-B acted, at least in part, directly on the LPS molecule to destroy its "anti-chemotactic" activity. We conclude that the inhibition of human neutrophil chemotaxis by LPS can be antagonized by glucocorticoids and by P-B. MP and P-B appear to act at different sites and in combination, have a synergistic effect. These findings may be relevant to the treatment of endotoxemia in man.
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