

## Index

Note: Page numbers of article and symposium titles are in boldface type.

- Acetylcholinesterase, assay of in amniotic fluid, 374
- Acid phosphatase, measurement of, to detect semen, 370
- Adenocarcinoma cells, electron microscopy of, 226-227
- Alkaline phosphatase antialkaline phosphatase reaction, 234, 236-237
- Alpha-fetoprotein, in amniotic fluid, 373-375
- in cerebrospinal fluid, 306
- in maternal serum, 375-376
- Amniocentesis, 373-389
- third trimester, indications for, 382
- Amniotic fluid, analysis of, for infection, 212-213
- for neural tube defects, 242
- in prenatal diagnosis, 373-389
- maternal cell contamination of, 380-381
- Antibiotics, prolonged use of, *Candida* proliferation caused by, 346
- Antigen(s). See also under specific antigens.
- carcinoembryonic, 246-248
- epithelial membrane, 248-249
- identification of, by immunofluorescent and immunoenzyme techniques, 234-239
- oncofetal, in cerebrospinal fluid, 305-306
- tumor cell, in cerebrospinal fluid, use of monoclonal antibodies to identify, 311-312
- APAAP. See *Alkaline phosphatase antialkaline phosphatase reaction*.
- Arabinitol, secreted by *Candida*, 351
- Arthritis, diagnosis of, in synovial fluid, 219
- Ascitic fluid. See also *Peritoneal fluid*.
- analysis of, 197-200
- Ataxia-telangiectasia, prenatal diagnosis of, 381
- Avidin-biotin complex method, bridged, 234, 236-237
- Avidin-biotin method, labeled, 234, 236-238
- Bacteria, analysis of body fluid for, 211
- detection in cerebrospinal fluid, 216-217
- Beta-glucuronidase, in cerebrospinal fluid, 307-308
- Beta-human chorionic gonadotropin, in cerebrospinal fluid, 306
- Beta<sub>2</sub>-microglobulin, in cerebrospinal fluid, 309
- Blood, analysis of, for infection, 213-215
- Blood count, in pleural fluid, 198-199
- Blood cultures, for visceral candidiasis, 348-349
- Bloom's syndrome, prenatal diagnosis of, 381
- Body fluid, analysis of. See also under specific fluids.
- cerebrospinal fluid cytopathology in, 275-302
- clinical utility of, 195-208
- electron microscopy for, 223-232
- flow cytometry in, 391-405
- for infection, 209-222
- prognostic value of cytologic peritoneal washings in, 265-274
- specimens for laboratory processing in, 209-212
- use of immunologic tumor markers in, 233-264
- Bridged avidin-biotin method, 234, 236-237
- Bronchial secretions, analyzed by flow cytometry, 401
- Cancer, cervical, peritoneal cytology in, 269-270
- ovarian, peritoneal cytology in, 268-269
- incidence of in normal host, 345
- Candidal cast method, for diagnosis of visceral candidiasis, 351-352
- Candidiasis, antibody response to, measurement of, 350-351
- disseminated, 332, 343
- patients at risk for, identification of, 345-346
- surveillance of, 346-347
- primary renal, 333-334, 343-344
- visceral, diagnosis of, new method for, 331-355
- manifestations of, 346-347
- tests for, 348-352
- Carcinoembryonic antigen, 246-248
- in analysis of cerebrospinal fluid, 305-306

- Carcinoma, electron microscopy of, 226-229  
 endometrial, peritoneal cytology in, 269
- Cell(s), malignant, in body fluids, electron microscopy of, 225-229
- Cell count, methods, in analysis of cerebrospinal fluid, 287, 289-290  
 red blood, in pleural fluid, 198-199  
 white blood, in pleural fluid, 199
- Cell culture, in cerebrospinal fluid, 285
- Cell differential, in cerebrospinal fluid, 286  
 white blood, 199-200
- Cell flow. *See Flow cytometry.*
- Centrifugal bucket cytology, 285
- Cerebrospinal fluid, analysis of, 201-203  
 by flow cytometry, 400-401  
 for detection of tumors, 242-244  
 for infection, 202-203, 215-217  
 microscopic, 286-290
- B- and T-lymphocytes in, 310-311  
 cell differential and cell count, 286-290  
 circulation of, 276  
 cytochemistry of, 309-312  
 cytopathology of, 275-302  
 accuracy of, 295, 297, 298  
 cytopreparation of, 281-286  
 cytocentrifugation technique for, 284-285  
 membrane filtration method, 282-283  
 sedimentation chamber method, 282  
 specimen collection for, 280-281  
 staining methods for, 285-286
- enzymes in, 307-308  
 hormones in, 306-307  
 normal, cellular composition of, 290, 292  
 characteristics of, 277  
 oncofetal antigens in, 305-306  
 pathologic, cellular composition of, 292, 293, 295  
 tumor cell antigens in, use of monoclonal antibodies to identify, 311-312  
 tumor markers in, 242, 303-315
- Cervix, cancer of, peritoneal cytology, 269-270
- Chamber count method, in analysis of cerebrospinal fluid, 287, 289
- Chorionic villus sampling, in prenatal diagnosis, 383-385
- Chromosomes, abnormalities of, detection of, prenatal, 376-382
- Chyle, 196-197
- Cockayne's syndrome, prenatal diagnosis of, 381-382
- Cultures, blood, to diagnose visceral candidiasis, 348-349
- Cytocentrifugation count method, in analysis of cerebrospinal fluid, 287
- Cytocentrifuge preparations, in immunoenzyme marker studies, 235-236
- Cytogenetic disorders, prenatal diagnosis of, 376-382
- Cytogenetics, 200
- Cytology, exfoliative, 200  
 peritoneal, 265-274
- Cytopathology, of cerebrospinal fluid, 275-302
- Desmosterol, in analysis of cerebrospinal fluid, 309
- Disseminated candidiasis, genesis of, fungal casts in, 343
- Down's syndrome, effect of maternal age on, 376-377
- Electron microscopy, in body fluid analysis, 223-232  
 usefulness of, 229-230  
 of normal cells in body fluid, 225  
 preparation of specimens for, 224  
 transmission and scanning compared, 223-224
- Empyema, diagnosed in pleural fluid, 218-219
- Encephalitis, viral, in association with herpes simplex, diagnosed in cerebrospinal fluid, 215
- Endometrial carcinoma, peritoneal cytology, 269
- Enzymes, in cerebrospinal fluid, 307-308
- Epididymis, contribution of to semen, 358-359
- Epithelial membrane antigen, 248-249
- Erythrocyte count. *See Red blood cell count.*
- Erythrocytes, enumeration of, in analysis of body fluid, 198-199  
 in urine sediment, 319-320
- Esterase stain, nonspecific, in immunologic cell marker studies, 239-240
- Exfoliative cytology, 200
- Fanconi's anemia, prenatal diagnosis of, 381
- Fetus, abnormal, diagnosis of from amniotic fluid, 373-389
- Filter count method, in analysis of cerebrospinal fluid, 289-290
- Flow cytometry, basic principles, 392-393  
 body fluid analyzed by, 391-405  
 bronchial secretions analyzed by, 401  
 cerebrospinal fluid analyzed by, 400-401  
 gating, 394  
 histograms, 394-395  
 joint fluid analyzed by, 402  
 laser beam used in, 393  
 leukemia analyzed by, 396  
 lymphomas analyzed by, 397

- peritoneal fluid analyzed by, 399–400
- pleural fluid analyzed by, 398–399
- semen analyzed by, 401–402
- urine analyzed by, 397–398
- urothelial malignancies detected by, 397–398
- Fluids. See *Body fluid* and under specific fluids.
- Fragile-X syndrome, prenatal diagnosis of, 382
- Fungal casts, genesis of, 343–344
- identification of, 331–355
- morphology of, 336–343
- Fungi, analysis of body fluid for, 211–212
  
- Gating, in flow cytometry, 394
- Glial fibrillary acidic protein, in amniotic fluid, 242
- in cerebrospinal fluid, 309
- Glucose, in pleural or ascitic fluid, 198
  
- Hemastix, 318
- Hemoglobin, chemical tests for, in macroscopic urinalysis, 318–319
- Hemoglobinuria, versus myoglobinuria, 323–324
- Histograms, in flow cytometry, 394–395
- Hormones, in cerebrospinal fluid, 306–307
- in infertile men, study of, 368
  
- Immunoalkaline phosphatase method, 236, 238
- Immunocytochemistry, interpretation of studies, 240–242
- of cerebrospinal fluid, 309–312
- outline of methods, 251–259
- Immunoenzyme techniques, to demonstrate antigen-antibody reactions, 234–239
- Immunofluorescence, direct, of urine sediment, for *Candida*, 350
- techniques to demonstrate antigen-antibody reactions, 234
- Immunoglobulins, cell surface, in analysis of cerebrospinal fluid, 310–311
- Immunologic tumor markers, in body fluid analysis, 233–264
- Infection, body fluid analysis for, 209–222
- diagnosis of, in cerebrospinal fluid, 202–203
- Infertility, male, laboratory diagnosis of, 357–372
  
- Joint fluid, analyzed by flow cytometry, 402
  
- Keratins, used to distinguish mesothelial and adenocarcinoma cells, 248
  
- Labeled avidin-biotin method, 234, 236–238
- Lactate dehydrogenase, in analysis of cerebrospinal fluid, 307
- urinary, in urinary tract infection, 349–350
- Laser beam, in flow cytometry, 393
- LCE test. See *Leukocyte esterase test*.
- Legionella*, detected in pleural fluid, 219
- Leptomeningitis, malignant, diagnosed in cerebrospinal fluid, 203
- Leukemia, analyzed by flow cytometry, 396
- Leukocyte count. See *White blood cell count*.
- Leukocyte esterase test (LCE), in analysis of leukocyturia, 317, 319
- Leukocytes, enumeration of, in urine sediment, 319–320
- Leukocyturia, clinical implications of, 324–325
- microhematuria and, urinalysis of, 317–329
- Lung, fluid in. See *Pleural fluid*.
- Lymphocytes, B- and T-, in cerebrospinal fluid, 310–311
- Lymphoma, analyzed by flow cytometry, 397
- lymphoblastic, diagnosed in pleural and peritoneal fluids, 250
- malignant, diagnosed in urinalysis, 204
- non-Hodgkin's, diagnosed in pleural and peritoneal fluids, 249–250
  
- Malignancy, detected in peritoneal fluid, 265–270
- urothelial, flow cytometry for, 397–398
- Malignant cells, in body fluids, scanning electron microscopy of, 229
- transmission electron microscopy of, 225–228
- Mannan, as antigen in *Candida*, 350
- Membrane filtration method, in cytopreparation of cerebrospinal fluid, 282–283
- modified, 283–284
- Meningitis, detection of in cerebrospinal fluid, 202–203, 215
- bacterial, detected in cerebrospinal fluid, 216–217
- fungal, detected in cerebrospinal fluid, 217
- Meningoencephalitis, acute, diagnosed in cerebrospinal fluid, 217
- Mesothelioma, diagnosis of, in pleural and peritoneal fluids, 249

- Microhematuria, leukocyturia and, urinalysis of, 317-329  
 physiologic, 321-322
- Millipore filter, in analysis of cerebrospinal fluid, 282, 288-289
- Monoclonal antibodies, in identification of tumor cell antigens in cerebrospinal fluid, 311-312
- Mosaicism, in prenatal diagnosis, 380
- Mucus, cervical, compatibility of with sperm, test of, 367-368
- Multiple sclerosis, detection of in cerebrospinal fluid, 203
- Myoglobinuria, versus hemoglobinuria, 323-324
- Neural tube, defects of, glial fibrillary acidic protein in diagnosis of, 242  
 prenatal diagnosis of, 373-375
- Nucleopore filter, in cytopreparation of cerebrospinal fluid, 282-283
- Ovary, cancer of, peritoneal cytology in, 268-269
- Papanicolaou stain, for cerebrospinal fluid, 285-287  
 of urine sediment, analysis of, 320-321
- Parasites, detected in cerebrospinal fluid, 217
- Pericardial fluid, analysis of, for infection, 217
- Peritoneal fluid, analysis of, 196-201, 265-274  
 by flow cytometry, 399-400  
 for detection of tumors, 244, 246-250  
 for infection, 218  
 malignancies detected in, 266-270  
 obtaining and processing, 270  
 tumor markers useful in, 244, 246-250
- Peritonitis, diagnosis of, peritoneal fluid in, 218
- Peroxidase antiperoxidase reaction, 234, 236
- Peroxidase stain, in immunologic cell marker studies, 239-240
- pH, pleural fluid, 201
- Pituitary hormones, in cerebrospinal fluid, 307
- Pleural effusion, distinguishing transudative from exudative, 197-198
- Pleural fluid, analysis of, 196-201  
 by flow cytometry, 398-399  
 for detection of tumors, 244, 246-250  
 for infection, 218-219  
 tumor markers useful in, 244, 246-250
- Polyamines, in analysis of cerebrospinal fluid, 308-309
- Precipitin test, to detect semen, 370
- Prenatal diagnosis, of amniotic fluid, 373-389
- Primary renal candidiasis, fungal casts in, genesis of, 343-344
- Prostate, contribution of to semen, 359-360
- Pseudomosaicism, 380
- Reagents, suppliers, 260
- Red blood cell count, in analysis of body fluid, 198-199
- Renal cell carcinomas, analyzed by electron microscopy, 227-228
- Renal parenchymal bleeding, microhematuria in, 323
- Scanning electron microscopy, transmission electron microscopy and, in body fluid analysis, 223-232
- Sedimentation chamber method, in cytopreparation of cerebrospinal fluid, 282
- Semen. See also *Sperm*.  
 analysis of, anatomy and pathophysiology, 358-360  
 by flow cytometry, 401-402  
 collection of specimen for, 360-361  
 in diagnosis of male infertility, 357-372  
 in rape or sexual assault, 369-370  
 microorganisms in, 366-367  
 pH of, 367
- Seminal vesicles, contribution of to semen, 359
- Serous effusions, causes of, 197
- Shandon Cytospin, 284
- Sperm*. See also *Semen*.  
 agglutination of, 362, 365  
 compatibility of with cervical mucus, test of, 367-368  
 gross examination of, 361-362  
 morphology of, 366  
 motility of, 365-366  
 viability of, 366  
 zona-free hamster ovum-human spermatozoa penetration assay, 368
- Sperm count, role in male infertility, 367
- Staining methods, for cerebrospinal fluid, 285-286
- Synovial fluid, analysis of, for infection, 219
- Testicle, biopsy of, in male infertility, 368
- Testis, contribution of to semen, 358
- Transmission electron microscopy, scanning electron microscopy and, in body fluid analysis, 223-232

- Tumor markers, immunologic, in body fluid analysis, 233–264  
in cerebrospinal fluid, 242–244, 303–315  
in pleural and peritoneal fluids, 244, 246–250
- Ultrasonography, in analysis of amniotic fluid, 374
- Urinalysis, 203–204. See also *Urine sediment*.  
flow cytometry and, 397–398  
for infection, 219–220  
for microhematuria and leukocyturia, 317–329  
microscopic, evaluation of Papanicolaou-stained sediment, 320–321
- Urinary tract disease, lower, microhematuria in, 322
- Urine colony counts, for visceral candidiasis, 349
- Urine sediment. See also *Urinalysis*.  
erythrocytes in, 319–320  
leukocytes in, 319–320
- Papanicolaou-stained, analysis of, 320–321  
processing of, procedure for, 335–336
- Viruses, analysis of body fluid for, 210–211  
detection in cerebrospinal fluid, 215
- White blood cell count, in analysis of body fluid, 199
- White blood cell differential, 199–200
- Wright stain, for cerebrospinal fluid, 286
- Xeroderma pigmentosum, prenatal diagnosis of, 381
- Zona-free hamster ovum–human spermatozoa penetration assay, 368