

Bonassi S, Fenech M, Lando C, Lin YP, Ceppi M, Chang WP, Holland N, Kirsch-Volders M, Zeiger E, Ban SY, Barale R, Bigatti MP, Bolognesi C, Jia C, Di Giorgio M, Ferguson LR, Fučić A, et al. Human MicroNucleus Project: International database comparison for results with the cytokinesis-block micronucleus assay in human lymphocytes: I. Effect of laboratory protocol, scoring criteria, and host factors on the frequency of micronuclei. *Environ Mol Mutagen* 2001;37:31-45.

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The first results of an analysis of pooled data from laboratories using the cytokinesis-block micronucleus (CBMN) assay and participating in the HUMN (HUMAN MicroNucleus project) international collaborative study are presented. The effects of laboratory protocol, scoring criteria, and host factors on baseline micronucleated binucleate cell (MNC) frequency are evaluated, and a reference range of "normal" values against which future studies may be compared is provided. Primary data from historical records were submitted by 25 laboratories distributed in 16 countries. This resulted in a database of nearly 7000 subjects. Potentially significant differences were present in the methods used by participating laboratories. Differences in criteria for scoring micronuclei were also evident. The overall median MNC frequency in nonexposed subjects was 6.5 parts per thousand and the interquartile range was between 3 and 12 parts per thousand. An increase in MNC frequency with age was evident in all but two laboratories. The effect of gender, although not so evident in all databases, was also present, with females having a 19% higher level of MNC frequency (95% confidence interval: 14-24%). Statistical analyses were performed using random-effects models for correlated data. The best model, which included exposure to genotoxic factors, host factors, methods, and scoring criteria, explained 75% of the total variance, with the largest contribution attributable to laboratory methods.

Lee GW, Boomer JS, Gilman-Sachs A, Chedid A, Gudelj L, Rukavina D, et al. Regeneration and tolerance factor of the human placenta induces IL-10 production. *Eur J Immunol* 2001;31:687-91.

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Regeneration and tolerance factor (RTF) was originally identified in the placenta of mice and the isolated protein shown to have suppressive effects. In these studies, the gene cloned from thymus tissue was mapped to human chromosome 12. The role of recombinant RTF on cytokines was examined. In addition, we examined the human placenta by immunohistochemistry for RTF expression. RTF was expressed at the peripheral layer of cytotrophoblast in 7-9-week-old placentas. Using the RTF gene sequence, a recombinant protein was prepared and shown to induce IL-10 production. These data indicate that RTF is expressed by the tissues most intimately involved at the maternal-fetal interface, and its biological activity is capable of producing the necessary immune response for initiating and maintaining the maternal-fetal relationship.

Matijević R, Olujić B, Tumbri J, Kurjak A. Cervical incompetence: the use of selective and emergency cerclage. *J Perinat Med* 2001;29:31-5.

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Women recruited in this case series were divided into two groups. The selective group (n = 13) was chosen among pregnant women with a history suggestive of cervical incompetence, but no clinical evidence of threatened miscarriage. The definition of cervical incompetence was dilatation of internal cervical os with shortening of the cervix less than 25 mm and "funneling" of 25% and more, found on the ultrasound examination of the cervix. The emergency group (n = 12) had clinical symptoms of threatened miscarriage. After exclusion of infection and in the absence of uterine activity they were counseled and offered cerclage. After cervical cerclage all women were treated in the same way as per our clinical protocol and monitored until delivery. The median gestational age at delivery was 36 weeks (19-39) in the selective group and 33 weeks (22-38) in the emergency group. This difference is not statistically significant. There was 1 miscarriage (8%), 5 pre-term deliveries (38%) and 7 term deliveries (54%) in the selective group; and 4 miscarriages (33%), 3 pre-term deliveries (25%) and 5 term deliveries (42%) in the emergency group. Total neonatal survival was 19/20 (95%) if pregnancy exceeded 24 weeks, making perinatal mortality 5%. There was no differences between selective and emergency groups (1 of 12 in selective vs. 0 of 8 in emergency). Overall, it can be concluded that both selective and emergency cerclage may have some benefits in patients with cervical incompetence. However, in the absence of a randomized-controlled study, these beneficial effects described cannot be considered as proved.

Mihaljević-Peš A, Jakovljević M, Miličević Z, Kračun I. Low arylsulphatase A activity in the development of psychiatric disorders. *Neuropsychobiology* 2001;43:75-8.

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Previous studies have suggested that arylsulphatase A (ASA) deficiency may be present in psychiatric patients. The hypothesis underlying this work is that there is a subclass of mentally ill patients whose psychiatric problems are at least partly caused by an abnormal ASA. The purpose of this particular study was to determine whether an abnormal ASA could be detected in schizophrenic, major depressed and demented patients and control subjects. There were 66 schizophrenic, 59 major depressed and 61 demented patients. The control group consisted of 102 healthy volunteers. Leucocyte ASA activity was determined from blood samples, using p-nitrocatechol sulphate as substrate. Our results show that low ASA activity is more frequently found in psychiatric patients than in control subjects. Our findings indicate that clinical types of major depression and schizophrenia could be connected with low ASA activity. The presence of a decreased ASA activity points to the conclusion that an enzyme deficit entails vulnerability to psychiatric disorders.