

UMURTQA POG'ONASI SHIKASTLANISHLARINING NURLI DIAGNOSTIKASI

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2022–2023-yillarda RSHTYOIM Samarqand filiali shifoxonasiga yotqizilgan umurtqa pog'onasi va orqa miyaning o'tkir jarohatlari bilan 222 nafar bemorning rentgen tekshiruvi tahlili o'tkazildi. Orqa miya shikastlanishining asosiy sabablari katatravma (68,7%), avtotransport shikastlanishi (22,3%) va boshqalar (9%) edi. Orqa miya shikastlanishining taxminan 46,2% ko'p o'choqli edi. Orqa miya shikastlanishining o'tkir davrida instrumental tadqiqotlar uchun diagnostika algoritmi quyidagi ketma-ketlikda amalga oshirildi: ikkita proektsiyadagi spondilogrammalar (77%), maxsus sxemalardagi spondilogrammalar (3%), MSKT (75%) va MRT (22%). MSKT politravmali va orqa miya shikastlanishi ehtimoli yuqori bo'lgan bemorlarda umurtqa pog'onasi sinishlarini tashxislashning asosiy usuli sifatida, dastlab rentgenografiya qilmasdan ham bajariladi.

Kalit so'zlar: travma, sinish, umurtqa pog'onasi, KT, MRT, rentgenografiya

Umurtqa va orqa miya jarohatlarining tabiati va og'irlik darajasini tashxislash zamonaviy vertebrologiya va neyroxirurgiyaning dolzarb vazifasidir. Orqa miya jarohatlari chastotasi bo'yicha qo'l-oyoqlarning shikastlanishlaridan keyin ikkinchi o'rinda turadi va osteoartikulyar apparatlar shikastlanishlarining 10-26% ni tashkil qiladi [4]. Barcha umurtqa sinishlarining 23-57%i an'anaviy rentgenografiya bilan aniqlab bo'lmaydi, lekin kompyuter tomografiyasi (KT) bilan aniqlanadi. Nurli diagnostikaning yanada informatsion usullari (multispiral kompyuter tomografiyasi - MSKT, magnit-rezonans tomografiya - MRT) paydo bo'lishi bilan umurtqa pog'onasi va orqa miya shikastlanishining tabiati va darajasini vizualizatsiya qilish sezilarli darajada yaxshilandi [1, 2, 3]. Shu munosabat bilan, turli usullarning diagnostika imkoniyatlarini, shuningdek, umurtqa pog'onasi shikastlanishining turli joylari uchun ularni kompleks qo'llashning qiyosiy tahlilini o'tkazish maqsadga muvofiqdir.

Ishning maqsadi: umurtqa pog'onasi travmatik shikastlanishining diagnostikasi sifatini oshirish va bemorlarni kompleks nurli tekshiruv uchun eng informatsion algoritmni ishlab chiqish.

TADQIQOT MATERIALLARI VA USULLARI

Ish 2022–2023-yillarda RSHTYOIM Samarqand filiali o'tkir umurtqa pog'onasi jarohatlari bilan yotqizilgan 728 jabrlanuvchiga tashxis qo'yish tajribasiga asoslangan. Orqa miya shikastlanishining o'tkir davrida instrumental tadqiqotlar majmuasining diagnostika algoritmi quyidagi ketma-ketlikda amalga oshirildi: rentgenogrammalar (spondilogrammalar) ikkita (old-orqa va lateral) proektsiyalarda (77%), spondilogrammalar maxsus sxemalarda (3%)., MSKT (75%) va MRT (22%).

Statistik tahlil uchun Version 11.6.1.0 ishlatilgan. Nisbiy xarakteristikalar 95% ishonch oralig'ini (CI) hisoblash yo'li bilan aniqlandi.

TADQIQOT NATIJALARI

Hozirgi vaqtda umurtqa pog'onasi shikastlanishi ehtimoli yuqori bo'lgan politraumali bemorlarni tekshirishning standart usuli dastlabki rentgen tekshiruvsiz MSKT hisoblanadi. Politravma bilan og'rigan bemorlarning KT tekshiruvi bosh va bo'yin qismlaridan boshlanadi (kesim qalinligi - 3 mm, kollimatsiya - $16 \times 0,75$ mm), ko'krak va lumbosakral mintaqalarga (kesim qalinligi - 5 mm, kollimatsiya - $16 \times 1,5$ mm) o'tadi. MSKT suyaklar, orqa miya kanali va orqa miya, faset bo'g'imlari, umurtqa o'siqlari va orqa miya konturining buzilishini aniqlashi mumkin.

Kompleks tekshiruvlar natijasida quyidagilar aniqlandi: 1) umurtqa pog'onasi va orqa miya (bo'yin, ko'krak, bel) shikastlanish darajasi; 2) shikastlanish ko'lami (1, 2, 3 yoki undan ortiq umurtqalar); 3) sinish turi (barqaror, beqaror); 4) sinishning tabiati (umurtqa yoyi, tanasi, kompression, maydalangan); 5) singan umurtqaning yoki uning suyak qismlarining siljishi mavjudligi va ularning yo'nalishi; 6) intervertebral disklarning holati (parchalanish, ularning qismlarini yo'qotish, bu yo'qotishning yo'nalishi va uning kattaligi); 7) orqa miya shikastlanishining darajasi va turi (darajasi, to'liq yoki qisman uzilishi, ekstra-, subdural yoki intraserebral gematomalar tomonidan siqilish).

Bemorlar tarkibida erkaklar ustunlik qildi - 61,5% (CI 57,9-65,1%), ayollar 38,5% (CI 35,0-42,1%). Orqa miya shikastlanishining asosiy sababi katatrauma edi - 68,7% (CI 65,2-72,1%), avtotransport travmasi - 22,3% (CI 19,3-25,5%) va boshqalar - 9% (CI 7,0) - 11,3%). Orqa miya bo'yin segmentlarining shikastlanishi 10,5% (CI 8,4-13,0%), ko'krak - 47,1% (CI 43,4-50,8%) va lumbosakral - 42,4% (CI 38,8-46,1%). Eng ko'p shikastlanganlar 5-6-bo'yin, 11-12-ko'krak, 1-2-bel umurtqalari edi. Orqa miyaning beqaror shikastlanishlari

30,7% hollarda (CI 27,4-34,2%), penetratsion - 60,5% (CI 56,8-64,1%) kuzatilgan. Orqa miya kontuziyasi bilan murakkablashgan jarohatlar 11,5% (CI 9,3-14,0%), siqilish - 10,5% (CI 8,4-13,0%) va orqa miya yorilishi - 1,0% (CI 0,4-2,0%). 46,2% (CI 42,5-49,9%) hollarda umurtqa jarohatlar ko'p bo'lgan. Bitta umurtqaning shikastlanishi 53,8% (CI 50,1-57,5%) da aniqlangan. Aksariyat hollarda (88,6%; 95% CI 86,1-90,8%) orqa miya shikastlanishi yopiq. Eng ko'p uchraydigan yoriqlar ikkinchi darajali siqilish darajasiga ega bo'lganlar edi - 52,6% (CI 48,9-56,3%). Ekstra- va subdural gematomalar - 8,6% (CI 6,7-10, 9%) hollarda umurtqa tanasi siljigan, ularning yoylari yoki suyak qismlari tomonidan umurtqa kanalning stenozi 29,8% (CI 26,5-33,3%) holatda aniqlangan. Orqa miya jarohatlarining umumiy soni orasida 4,8% (CI 3,4-6,6%) holatda yoriqlar kuzatildi.

Orqa miya qismiga va shikastlanishning og'irligiga qarab, biz individual tadqiqot algoritmlarini ishlab chiqdik.

Bo'yin umurtqalari sohasi. Kraniovertebral mintaqaning maxsus tuzilishi atlanto-oksipital bo'g'imning yorilishi, oksipital suyak kondilining yoriqlari, atlasning sinishi, yarimchiqishlar va atlanto-aksial bo'g'imdagi beqarorlik, tishsimon o'siq sinishi kabi turli xil jarohatlarning rivojlanishiga olib keladi. Shikastlanishning yetakchi mexanizmiga

ko'ra, bo'yin umurtqa pog'onasi sinishining quyidagi turlari ajratiladi: 1) giperfleksiya bilan sinishlar; 2) giperekstansion sinishlar; 3) vertikal compression sinishlar. Giperfleksiyali sinishlar bo'yin umurtqa haddan tashqari fleksiyasida paydo bo'ladi, buning natijasida oldingi yarimchiqishi yoki umurtqaning sagittal tekislikda siljishi sodir bo'ladi.

Giperfleksiyali sinishlar ko'pincha o'tkir disk churrasi bilan bog'liq bo'lib, bu MRTda yaxshiroq tasvirlangan. O'q umurtqaning tishsimon o'sig'i singanida, eng keng tarqalgan sinish mexanizmi boshning kuchli egilishi bo'lib, bu C_1 umurtqasining C_2 umurtqasiga nisbatan ventral siljishiga olib keladi. Bunday holda, orqa miya kanalining torayishi sodir bo'ladi, bu esa uzunchoq miyaning siqilishiga olib keldi. "To'kilgan ko'z yoshi" tipidagi fleksiyon sinishlar bo'yin umurtqasining sinishining 5% (CI 1,3-12,6%) ni tashkil qiladi, bo'yin umurtqasining haddan tashqari egilishi tufayli yuzaga keladi va ko'pincha orqa miya shikastlanishi bilan bog'liq bo'ladi. Bunday holda, oldingi va orqa bo'ylama boylamlar va intervertebral diskning yorilishi, shuningdek, umurtqa pog'onasining oldingi pastki burchagining sinishi qayd etilgan.

Bo'yin umurtqa pog'onasidagi haddan tashqari bukilish umurtqa va intervertebral bo'g'imlarning dislokatsiyasiga olib keldi. Fleksion sinishlarning xarakterli xususiyati orqa boylamli apparatning yorilishi edi: ligamentum flavum, faset bo'g'inlarining kapsulalari va tolali halqaning orqa qismi.

Giperekstension sinishlar (giperekstantsiya) sagittal tekislikdagi shikastlangan orqa miya segmentining orqa dislokatsiyasiga yoki orqaga siljishiga olib keldi. Jiddiy giperekstension yoriqlarda ikkala qo'llab-quvvatlovchi kompleks ham shikastlangan, bu esa umurtqa beqarorligiga olib keladi.

Vertikal compression sinishlari umurtqa pog'onasidagi o'qi yuklamasi va bosimning bosh suyagi suyaklari va ensa suyagi bo'rtmalaridan bo'yin umurtqasining tuzilmalariga o'tkazilishi tufayli yuzaga keldi. Ushbu shikastlanish mexanizmi bilan odatiy shikastlanishlar atlas sinishi, shu jumladan Jeffersonning sinishi, shuningdek, pastki bo'yin umurtqalarining sinishlari edi.

Ko'krak va bel umurtqalari.

Ko'krak-bel qismi orqa miya jarohatlarining eng keng tarqalgan tasnifi F. Denis [6] va AO (F. Megerli [5] ning o'zgartirilgan tasnifi) tasniflaridir. Ushbu tizimga ko'ra, umurtqa pog'onasining asosiy shikastlanishlari 4 guruhga bo'linadi: 1) compression sinishlari; 2) yorilib sinishlari; 3) xavfsizlik kamarlari tipidagi sinishlar; 4) sinish-chiqishlar.

Ko'krak-bel umurtqa pog'onasi shikastlanishi bo'lgan bemorlarning taxminan yarmida (49,8%; CI 45,7-53,9%) compression sinish sodir bo'ldi. Bu sinishlar oldingi tayanch kompleksining shikastlanishi bilan tavsiflangan, o'rtadagi buzilmasdan qolgan va orqa tayanch majmuasi buzilmasdan qolishi yoki cho'zilish natijasida shikastlanishi mumkin edi. Ushbu turdagi sinish egilgan umurtqa pog'onasidagi o'q yuklamaning ta'siri tufayli yuzaga kelgan. Odatda, sinish yuqori yopuvchi plastinkagacha cho'zilgan, bu esa umurtqa tanasining xanjar shaklidagi deformatsiyasiga va uning old yuzasida po'stlog'ining yo'q qilinishiga olib keldi.

Ushbu shikastlanish shaklida umurtqa tanasining siqilishi odatda kranial yopuvchi plastinkaning sinishi va kranial diskning shikastlanishi bilan birga bo'lgan. Kamroq, 4,7% hollarda (CI 3,2-6,7%) o'rovchi va bazal yopuvchi plastinkalar, shuningdek, kranial va kaudal disklar shikastlangan.

Yorilib sinishi nisbatan ko'p uchradi va holatlarning taxminan yarmida nevrologik buzilishlarga olib keldi. Bunday yoriqlar oldingi va o'rta yoki barcha 3 ta tayanch komplekslarning shikastlanishi bilan tavsiflanadi. Yoriqlarning ko'pchiligi suyak bo'laklarining orqaga siljishi bilan sodir bo'lgan, bu esa orqa miya kanalining torayishiga olib keldi. Bemorni tekshirish paytida suyak bo'laklarining holati shikastlanish vaqtida kanalning torayishining haqiqiy ko'rinishini aks ettirmadi.

Fleksion va siljib sinishi (Chance sinishi) - faqat bitta umurtqaning suyak tuzilmalariga ta'sir qiladigan kamyob shikastlanish turi. Singan chizig'i umurtqa pog'onasi, yoylar, ko'ndalang jarayonlar va umurtqa tanasi orqali gorizontol ravishda o'tdi.

Ko'krak va bel umurtqa jismlarining bir nechta sinishi 15% hollarda (CI 13,2-19,2%) sodir bo'ldi.

Sinib chiqishlar 10,5% (95% CI 8,4-13,0%) holatlarida sodir bo'lgan va eng xavfli umurtqa shikastlanishlar bo'lgan, ularning 75% murakkab va MRT talab qilindi. Sinish bir umurtqaning boshqasiga nisbatan siljishi bilan tavsiflanadi, bu uning gorizontol siljishi yoki aylanishiga olib keldi (2d-rasm). Orqa miyaning barcha uchta qo'llab-quvvatlovchi komplekslari vayron bo'lganligi sababli, sinish-chiqishlar juda beqaror. Rentgenogrammalarda umurtqali jismlarning siljishi va umurtqali jarayonlar aniqlangan. Og'ir holatlarda faset bo'g'imlarining chiqishi sodir bo'ldi.

O'tkir o'siqlarning sinishi kamdan-kam uchraydi (5,7%; CI 3,9-7,8%) va travmatik kuchning bevosita qo'llanilishi yoki mushaklarning haddan tashqari intensiv qisqarishi (odatda trapetsiyasimon va rombsimonlar) natijasida yuzaga kelgan. Umurtqalarning ko'ndalang o'siqlarining yoriqlari ko'pincha umurtqa pog'onasida paydo bo'lgan va mushaklarning keskin qisqarishi yoki to'g'ridan-to'g'ri travma tufayli yirtilgan xarakterga ega edi. Bir yoki ikkala tomonda joylashgan bir yoki bir nechta o'siqlarning sinishi ham mavjud edi. Ko'chirilgan yoriqlar odatda atrofdagi yumshoq to'qimalarning (mushaklar, fastsiya, tomirlar) shikastlanishi bilan birga bo'lgan.

Keng qamrovli rentgenologik tadqiqotning tahlili shuni ko'rsatdiki, standart rentgenografiya bilan umurtqa pog'onasidagi travmatik o'zgarishlar jabrlanganlarning 63 foizida (CI 59,3-66,5%) ko'rsatilgan. 2 proektsiyada an'anaviy rentgenografiya orqa miya o'qidagi o'zgarishlarni, umurtqalarning siljishi va chiqishini, suyak deformatsiyasining mavjudligini va ba'zi hollarda paravertebral yumshoq to'qimalarning soyasidagi o'zgarishlarni aniqlash imkonini berdi. 75,9% (CI 72,6-79,0%) hollarda turli darajadagi umurtqali jismlarning xanjar shaklidagi deformatsiyasi ko'rinishidagi siqilish yoriqlari aniqlandi; 11,4% (CI 9,2-13,9%) hollarda - ko'ndalang umurtqa yoriqlari; 3,7% da (CI 2,5-5,3%) – bo'yin umurtqa yarim chiqishi.

MSKT rentgen ma'lumotlarini tasdiqladi va qo'shimcha ma'lumot berdi. MSKT an'anaviy spondilografiyaga qaraganda ko'proq aniqlik bilan sinishni tavsiflashga imkon berdi: uning darajasini, shikastlangan umurtqalar sonini aniqlash, yoylarning sinishi, artikulyar o'siqlar, umurtqa tanalarining turli qismlarini aniqlash, sinish chiziqlarining

uzunligini va singan umurtqalarning suyak bo'laklarining diastazini aniqlash. MSKT umurtqa kanalning bo'shlig'iga ko'chirilgan suyak qismlarini ko'rish imkonini berdi. Oddiy rentgenogrammalarda ular ko'rinmas, umurtqa yoylari tomonidan yashiringan edi.

MRT umurtqa pog'onasining yumshoq to'qimalari tuzilmalarini ko'rish imkonini berdi: boylamlar, umurtqalararo disklar, orqa miya membranalari va orqa miyaning o'zida o'zgarishlar (ishemiya - shish, qon ketish, kista), ekstra- va intradural qon ketishlar shuningdek, umurtqa qismlardagi o'zgarishlar kabi. MRT - orqa miya shikastlanishlarini tashxislashning yuqori informatsion usuli bo'lib, o'rganish vaqtida miya holatini va zararlanish joyini tavsiflaydi, bemorni jarrohlik davolash uchun ko'rsatmalarni aniqlashga yordam beradi va bemorni davolashda differentsial yondashuvni ishlab chiqadi. MRT travmadan keyingi disk churrallari tashxisida yetakchi o'rinni egalladi.

XULOSA

1. Umurtqa pog'onasi o'tkir shikastlanishida, favqulodda holatlarda, standart spondilografiya, MSKT va MRT yordamida turli xil rejimlarda keng qamrovli nurli tadqiqot o'tkazish maqsadga muvofiqdir. Faqat rentgenografiya yoki bu usullardan biri bilan cheklanish tavsiya etilmaydi, chunki bu holda umurtqa pog'onasi va orqa miya holati haqida muhim ma'lumotlarni ololmaslik ehtimoli mavjud.
2. Umurtqa pog'onasi o'tkir shikastlanishini keng qamrovli nurli diagnostika yordamida o'rganish tashxislash masalalarini tezda hal qilishga va har bir alohida jabrlanuvchi uchun davolash taktikasini o'z vaqtida aniqlashga va ushbu turdagi shikastlanishning mumkin bo'lgan oqibatlarini oldini olishga yordam beradi.

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